2019

An Examination of the Student Work Study Collaborative Inquiry in Ontario Schools

Mona Marie Taouil
taouil1@uwindsor.ca

An Examination of the Student Work Study Collaborative Inquiry in Ontario Schools

By

Mona George-Taouil

A Major Research Paper
Submitted to the Faculty of Graduate Studies
through the Faculty of Education
in Partial Fulfillment of the Requirements for
the Degree of Master of Education at the University of Windsor

Windsor, Ontario, Canada

2019

Examination of the Student Work Study Collaborative Inquiry in Ontario School

By: Mona Taouil

APPROVED BY:

_____

G. Salinitri
Faculty of Education

_____

G. Rideout, Advisor
Faculty of Education

May 15, 2019

DECLARATION OF ORIGINALITY

I hereby certify that I am the sole author of this major research paper and that no part of this work has been published or submitted for publication. I certify that, to the best of my knowledge, my major research paper does not infringe upon anyone's copyright nor violate any proprietary rights and that any ideas, techniques, quotations, or any other material from the work of other people included in my paper, published or otherwise, are fully acknowledged in accordance with the standard referencing practices. Furthermore, to the extent that I have included copyrighted material that surpasses the bounds of fair dealing within the meaning of the Canada Copyright Act, I certify that I have obtained a written permission from the copyright owner (s) to include such material (s) in work and have included copies of such copyright clearances to my appendix.

I declare that this is a true copy of my major research paper, including any final revisions, as approved by my major research paper committee and the Graduate Studies office, and that this paper has not been submitted for a higher degree to any other University or Institution.

ABSTRACT

This major paper examines a unique approach to a professional collaborative inquiry in schools, in Ontario, called The Student Work Study Initiative. It was a job embedded approach which sought to uncover how students academically achieving Level 2 could improve to Level 3. This paper will explore the benefits of using a collaborative inquiry process which includes the student as a central partner through systematic co analysis, co description, and co reflection of student work captured through the use of pedagogical documentation. The Student Work Study approach will be examined in its entirety and its benefits and implications will be compared with more traditional ways of educational reform. Methods analyzed will include qualitative data drawn from pedagogical documentation.

Anticipated findings of this review include a study of the impact of this approach on student learning and well- being in the classroom, descriptions of learning cultures and partnerships formed amongst and between teachers and student and content, producing students with increased agency and power in classrooms, the use of systematic pedagogical documentation in the process, and engaging students and teachers as researchers in a community of learning. This paper highlights tensions including: lack of time, inconsistent assessment and evaluation practices, implications for introverted learners amidst collaborative learning structures in classrooms, and the challenge of continuing this work beyond the life of the actual funded intervention to include its premise as part of regular classroom and school structures, in order to foster lasting change for school leaders, students, teachers, and system partners.

DEDICATION

I wish to dedicate this work to my supportive and amazing husband Tony, and to my most precious children, Abigail Sarah and Antoine James. For the many, many days and evenings after work, over the years, you both would beg me to stop "researching" you, and to the days you would drop everything to stop and listen to my discoveries and wonders, and then provoke me more with your own questions and reactions; this is your work as much as it is mine. To you three, you are my total everything.

To my mom and late dad. You have borne me from a true, real, beautiful love, and I am eternally inspired by your story, both in life and in death, and by the love you have shared and passed on to us as an authentic gift of a perfect union of your two most magnificent souls.

To my sisters Sharon, Nancy, Elaine, Jennifer, and my brother Sam, I love you as much as Margueritte loved Jimmy and Jimmy loved Margueritte and that is all perfection. Most importantly, at this point in my life, I dedicate this effort to the first light of my life and my now eternal angel in heaven: my dad, now my own "nijmah: my morning star," my now "arise il sabah," my biyah, my JIMMY GEORGE, whose light I feel shining down from heaven directly, and whose loud and powerful voice still echoes in my head, "When you gotta job to do, you should do it."

Love you for all of time Biyah.

ACKNOWLEDGEMENT

I would like to acknowledge and thank the following important people who have supported me throughout my master's degree. First and foremost, I wish to thank my advisor, Dr. Glenn Rideout, who has always shown a keen interest in my work, and an understanding of both my dreams and demanding realities.

I also wish to acknowledge my superintendent and mentor, Emelda Byrne, who has always supported me, provoked me, encouraged me and believed in the power of this work for potentially bettering the lives of students in our system. To her, I am grateful.

And to all of my students along my 'researcher -in -education' path: I only hope I might have influenced you in some positive way, in comparison to the vast amount of understanding, honesty, openness and zest for learning with which you have actually influenced me.

TABLES OF CONTENTS

CHAPTER 1: INTRODUCTION

General Statement of the Problem

"If you want to travel fast, go alone. If you want to travel far, go together." African Proverb.

Every day, educators in Ontario come into contact with student work. The reviewing and assessing of student work are not extraordinary pedagogical notions. However, one six-year long Collaborative Learning Inquiry initiative in Ontario, named the Student Work Study Initiative focused on just that notion in the fall of 2009. The central idea behind the Student Work Study initiative (SWS) was the importance of educators observing, describing, analyzing and reflecting upon student work together, as opposed to in isolation as is usually the case (Little, Gearhart, Curry, & Kafka, 2003). Organizations engaging in education reform have begun to bring teachers together to do collectively what they generally do alone: examine student work (Little et al., 2003). For years, educational reform efforts have worked to improve education by bringing key tasks from districts and boards to schools and classrooms (Cameron, Gauthier, Ryerson, & Kokis, 2011). This paper explores a unique approach, the Student Work Study Initiative, developed by the Literacy and Numeracy Secretariat of the Ontario Ministry of Education, (Ministry of Education, 2011).

Educators and education stakeholders in Ontario seek to improve the learning of all of their learners. As such, Collaborative Inquiries (CI's) in education in Ontario are perceived as a valued tool used in interventions. Collaborative Inquiries are structures where members of a professional learning community (PLC) come together to systematically study their instructional practice. Teams of educators collaborate to pose wonders/questions, pursue theories of action,

gather evidence, and co-analyze to develop next steps. Throughout this process, teams test presuppositions about what they think might work using the evidence they have of what is really present (City, Elmore, Fiarmen, & Teitel, 2009). Part of the Ministry's vision statement is a claim that all learners can learn. At the inception of the Student Work Study Collaborative Inquiry (SWS-CI,) the Ministry of Education's Achieving Excellence mission statement identified three tasks:

1) Increasing Student Achievement

2) Closing gaps in Student Achievement

3) Increasing public confidence in publicly funded education

Currently, there is a re-definition of the goals mentioned above to include:

Achieving Excellence: "Children and students of all ages will achieve high levels of academic performance, acquire valuable skills and demonstrate good citizenship. Educators will be supported in learning continuously and will be recognized as among the best in the world" (Ministry of Education, 2016-2017).

Ensuring Equity: "All children and students will be inspired to reach their full potential, with access to rich learning experiences that begin at birth and continue into adulthood" (Ministry of Education, 2016-2017).

Promoting Well-Being: "All children and students will develop enhanced mental and physical health, a positive sense of self and belonging, and the skills to make positive choices," (Ministry of Education, 2016-2017).

Enhancing Public Confidence: "Ontarians will continue to have confidence in a publicly funded education system that helps develop new generations of confident, capable and caring citizens," (Ministry of Education, 2016-2017).

The ministry states that when educators, students, parents and guardians, and many other partners focus on a small number of clearly defined goals, those goals can be achieved (Ministry of Education, 2016-2017).

If the province-wide belief is all learners can learn, then the question arises: what impedes students from reaching the Level 3 provincial standard in Ontario, based on the Education Quality and Accountability Office, (EQAO) measures of evaluation? The Ministry of Education, in The Ontario Curriculum, has set Level 3 as the provincial standard of student achievement. These levels of achievement are aligned with the four-level scale developed by the Ministry of Education and used on the Provincial Report Card. Level 3 demonstrates a considerable level of achievement of provincial curriculum expectations. Level 4 means the student has demonstrated the required knowledge and skills thoroughly or to a high degree, where achievement exceeds the provincial standard of Level 3. For Level 2, the student has sometimes shown the required knowledge and skills. Here, achievement approaches the provincial standard. This level was the achievement level of focus in SWS-CI, in that students who were achieving Level 2 were the students of focus for the inquiry. And, lastly, Level 1 means the student has demonstrated the required knowledge and skills in limited ways and achievement falls much below the provincial standard (EQAO's Provincial Elementary School Report, 2014). These are some of the questions the Literacy Numeracy Secretariat (LNS) with the Ministry of Education in Ontario asked, and sought to answer by designing the Student Work

Study Initiative: Why do so many Ontario students sit within the level 2 range? What keeps them there? Is it acceptable to be a Level 2 student in today's society? Who are these students performing at Level 2+ just shy of the provincial standard of Level 3? What prevents them from achieving the provincial standard of Level 3? What else can educators, principals, parents, and students do to improve academic achievement? What are the benefits for districts, boards, schools in discovering how to improve a students' work performance from a level 2 to a level 3? SWS' premise was based on collecting, capturing, co-analyzing, and co-reflecting upon student work samples of those students performing at Level 2+, using both EQAO data and other forms of school generated data.

The Student Work Study Initiative sought to examine students who were living in the academic achievement range of Level 2 (C-C+ grade range) who educators believed could achieve the standard Level 3 (B range), with attention and intervention. Once students were selected, board approved information and passive consent style forms were sent home to parents to inform them of the study taking place in their child's classroom. Further, it was explained work samples studied would be completely anonymous and gathered only for the purpose of the study. Additionally, parent permission to have their child's photo taken and shared was already gathered by individual schools at the start of every academic year. If a student selected to be a part of SWS but did not have parent permission to have their photo taken and shared, then they could not be part of SWS. In addition, almost all parents were aware of the study and did not disapprove of having work samples gathered and studied by the SWST. Parents were made aware that the SWST was in fact a teacher with the board and was also hired in a temporary research role by the Ministry.

Research Questions

There is limited research on the actual application and effectiveness of the Student Work Study Initiative: this paper reviews its process, its functionality, and its benefits and implications for school leaders, and students in schools. This paper further explores the effects of using a job embedded collaborative inquiry process which includes the student as a central partner in the teaching and learning process through systematic co-analysis, co-description, and co-reflection of student work, and thinking, captured through the use of pedagogical documentation. Three research questions are explored: 1) What new understandings about student thinking can be revealed for schools and boards, by implementing a job embedded collaborative inquiry approach, which studies the experiences of students in classrooms, and perceives the student as a partner in the teaching learning process? 2) How can school leaders implement this approach in schools and districts? 3) How does this type of approach improve student engagement, learning and school culture?

History of the Student Work Study Initiative

The Student Work Study Initiative is different primarily in its approach in that it is a job embedded inquiry. A job embedded inquiry involves an additional teacher/ researcher/ practitioner working shoulder to shoulder alongside students and teachers directly, in classrooms. It is rooted in examining a student's reality in classrooms across Ontario. It is driven from the student desk and produces practice-based research findings. It is a backwards, inside out, asset based, student-centered approach aimed at improving learning in students achieving Level 2, primarily in the areas of Literacy and Mathematics. SWS focuses on a partnership and shared vision between ministry, boards and districts, schools, teachers and students directly in

classrooms (Ministry of Education, 2011). Thereby the professional learning occurs in the actual context, of the classroom, to improve the outcomes for student learning (Fullan, 2006, p.9).

SWS belongs in the category of new pedagogies referenced by Fullan and Langworthy (2014). They explain that the new pedagogies include a change from teachers focusing on covering curriculum expectations, to more of a focus on the learning process itself, whereby teachers perceive students as their partners in the learning process, who are engaged in worthwhile and challenging tasks of exploration, inquiry, and connectedness and real world purposes in order to create a love for life-long learning.

Author Contextualization and Evolution of the Program

I was one of the first 50 SWSTs hired in the province in late 2009 and as such, a participant teacher researcher involved in the study and some research findings presented in this paper. As a pioneering SWST, in many ways I helped to create, modify, revise, and plan the project as we lived it together; all of us not really certain what we would discover along this new journey or how. There was no concrete plan or a professional manual. We learned as we lived the daily work. During the first year of its inception in the fall of 2009, the Student Work Study Initiative was pioneered by 19 districts across the province of Ontario with the LNS (Literacy Numeracy Secretariat Branch of the Ministry of Education) hiring 50 Student Work Study Teachers (SWST) who were experienced teachers and practitioners hired in a temporary research role, to work within a total of 250 classrooms, in grades K-6 across Ontario (LNS, 2011). Each SWST worked in roughly 3-5 schools with teachers who volunteered to be active participants in the collaborative inquiry using ethnographic research methods. By 2016, SWS participation had grown into 72 boards. SWS was a number of distinct collaborative inquiry learning projects

across Ontario during 2009/2010–2015/2016, which focused on student thinking and actions in response to daily classroom conditions.

The structure relies on a co-learning model in which both the SWST (student work study teacher employed by the ministry in a temporary research role) and the host classroom teachers (who mostly volunteered) work together to study student work samples and actions /responses to instruction within classrooms. (Ministry of Education, 2011). In the beginning stages of the initiative, no real new learning strategies and teaching discoveries evolved. However, four main high yield instructional strategies did become major learning themes evolving from the first year of the initiative. These included Guided Practice, Accountable Talk, Worthwhile Tasks, and Timely and Descriptive Feedback (Ministry of Education, 2011). As time went on, the process of the inquiry itself became just as important as the specific instructional strategies it yielded. The process of inquiry included a meaningful, open to learning way of thinking, around teaching and learning to occur between teacher and SWST, teacher and student, SWST and student. Learning partnerships (Fullan & Langworthy, 2013) which stemmed from studying the necessary components of the Instructional Core soon formed (City et al., 2009).

Initially, in the first year of the project, the purpose was to learn more about characteristics of students' work at level 2, in the areas of literacy and numeracy, kinds of feedback to students that resulted in improved work and engagement, and classroom conditions that supported the development of student learning (Ministry of Education, 2011). It included the SWST visiting classrooms regularly, (ex., 1-3 times a week for both the numeracy and/or literacy block) observing students at work, occasionally engaged in tasks, and documenting the work. It also included sharing that documentation either 'on the fly' with the Host Classroom

Teacher or in more structured professional learning ways (professional learning communities and networks) for conversation and work study and co-reflection and co-planning next steps.

SWS was unique in its approach to professional development as it included a job embedded component and was student centered, rather than teacher centered. It was inside out in structure. It focused on the classroom and student first, and not on a deficit model of professional development which sought to fill in instructional gaps. The SWS approach assumed teachers needed no or little pedagogical improvement. Instead educators involved in the SWS inquiry used an asset based lens when examining student work and the instructional core because, as Elmore argues, if it's not in the core, it's not there at all, and a "focus on the core grounds school improvement in the actual interactions between teachers, students, and content in the classroom…" (City et al., 2009).

At the start of the SWS initiative, ideally, SWST and host teacher together selected specific students for observation purposes, using teacher judgement and quantitative data sources (ie., report card grades in Numeracy, Literacy and Learning Skills, and EQAO data). At the beginning of the project, it became evident that students included in the project were not those achieving below grade level expectations and working on individual education plans, (IEP), nor were they being seen by extra learning support service teachers in any way. They were not students consistently performing at the level 3 standard or higher (EQAO). They were not students being noticed for behaviour issues. These students achieving level 2 were mostly silent, not very noticeable, students who did not ask for much educator attention. They were students existing in the middle of the achievement realm. The Student Work Study teachers' (SWSTs) key focus was on studying students who were not achieving and where it was uncertain why,

(Ryerson 2017). Amongst educators in the initiative, these students soon became known as students of mystery. (Ministry of Education, 2011). The term 'students of mystery' referred to students whose achievement of level 3 was inconsistent and who we knew little about at the start of the SWS study. Later, we discovered that these students responded well to attention, conversation, feedback and participation in their own learning offered by SWST and host teacher.

Significance of the Study

The significance of the study lies in its very name: The Student Work Study. The actual work of a student, including hard copies of work and also oral responses, interactions with other peers, and classroom behaviours, all were assessed and evaluated by educators for a variety of factors in various ways. At times, however, the work alone did not accurately reflect what a child truly knew. For this reason, a conversation with the child to help identify other knowledge and skills that the child learned was necessary. This is known as the triangulation of data: using student work/product, conversation and observation to gain a more authentic picture of what a students' assets and potential areas of growth in learning are, (Ministry of Education, 2010, p. 34).

Little et al., (2003) recall the importance of the slogan coined years ago, "Examining student work for what matters most," which suggests it could help improve school and board and district outcomes by first identifying and improving student needs and potential areas of growth. Its value is in the very fact that it brings students into the centre of action and conversations around analyzing their work and a teachers' next instructional steps. Little et al., (2003) argue that by examining student work collaboratively with one another, teachers will increase their

opportunities to learn, to create professional learning communities that are both willing and able to inquire and question practice, and to focus school-based conversations around teaching and learning with the student at the forefront. Examining student work lends itself to practitioners becoming reflective not just about the student work but also about their own practice (Taouil, 2012).

Definition of Terms

The following terms are defined for the purpose of this paper:

Collaborative Inquiry- According to Donohoo (2013), a framework of educators routinely gathering as a professional learning community (PLC) to systematically reflect upon and study their own pedagogy. The PLC questions each other and themselves, wonders, develops theories of action, determine next steps, and analyze data to measure their efforts. Donohoo states that by closely examining and reflecting on their actions, educators think differently and question existing dominant structures and think about implications for their own professional development.

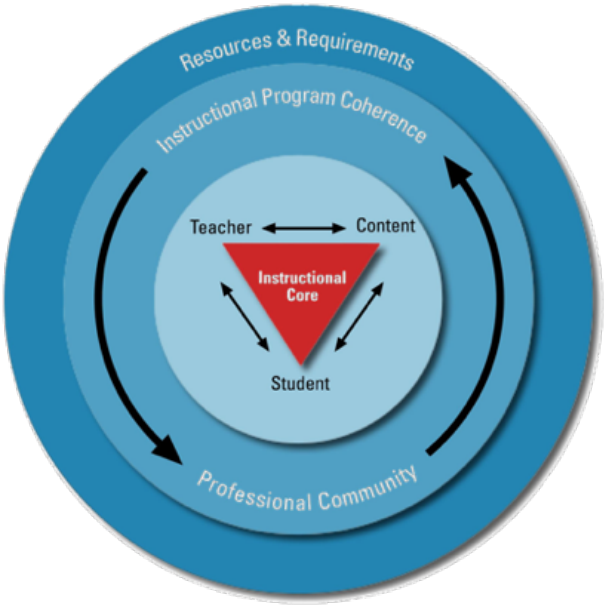
Pedagogy- is the understanding of how learning takes place and the philosophy and practice that supports that understanding of learning" (Ministry of Education, 2004, p. 16 in Ministry of Education, 2015).

Documentation "as the practice of observing, recording, interpreting, and sharing through a variety of media the processes and products of learning in order to deepen and extend learning. These physical traces allow others to revisit, interpret, reinterpret, and even re-create an experience." (Krechevsky, Mardell, Rivard, & Wilson, 2013, p. 74, in Ministry of Education, 2015)

Pedagogical Documentation- "is a process for making pedagogical (or other) work visible and subject to dialogue, interpretation, contestation and transformation." (Dahlberg, 2007, p. 225 in Ministry of Education, 2015).

Ethnographic Research- "is the systematic study of people and cultures. It is designed to explore cultural phenomena where the researcher observes society from the point of view of the subject of the study," https://en.m.wikipedia.org/wiki/Ethnography.

Instructional Core- "In its simplest terms, the instructional core is composed of the teacher and the student in the presence of content… (City et al., 2009).



(Figure 2) According to Elmore: "one cannot just focus on an element of the core; all elements must be addressed."

Learning Partnerships- a type of new pedagogy, described by Fullan and Langworthy (2014). Based on a learning partnership between and among students and teachers and tries to appeal to a student's and teacher's intrinsic motivation to succeed. Learning focuses on real world

connections and real - life problem solving using digital technology as part of the learning environment.

Metacognition- The process of thinking about one's own thought processes. Metacognitive skills include the ability to monitor one's own learning. (Growing Success, Ministry of Education, 2010)

Data- in the context of education a synonym for information including words, numbers, or observations that are collected systematically, usually for a specific purpose (van Barneveld, 2008).

Student achievement data- teacher observational notes of students' performance in class, samples of students' class work, student portfolios, results of formal and informal classroom assessment, report cards or large-scale assessment results (van Barneveld, 2008).

Other student data-relevant to the students such as student mobility, attendance data, behavioural incident data and homework completion (van Barneveld, 2008).

Contextual data that are not under the direct control of the teacher (such as students' linguistic background, gender or community socio-economic factors) but important to consider when focusing on improved student achievement (van Barneveld, 2008).

CHAPTER 2: METHODOLOGY

The purpose of this paper is achieved in three ways. Firstly, to address the research questions above by illustrating the history of Student Work Study in Ontario schools, secondly by examining the literature relating to SWS and other new pedagogies like it in collaborative inquiries; and thirdly, to delve deeper into the impact of pedagogical documentation as a participatory tool and assessment within the Student Work Study and other new pedagogies.

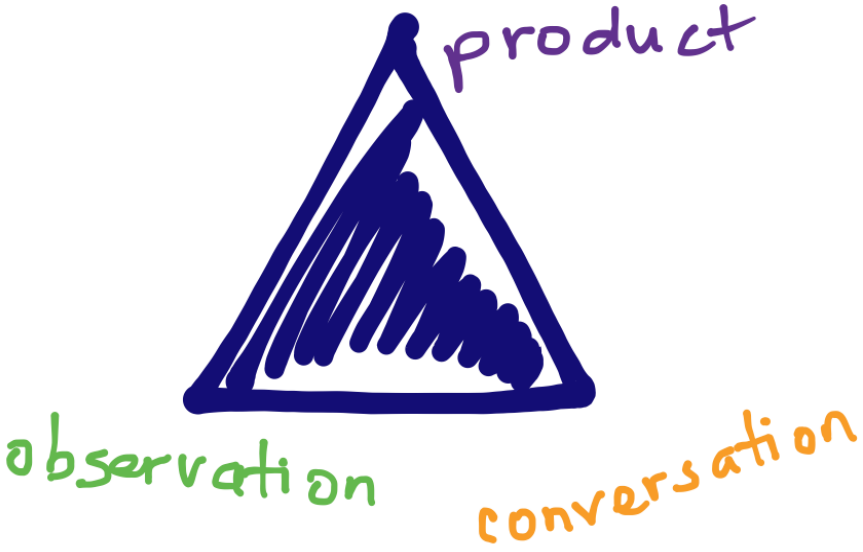
Methodology used will be an examination of the literature surrounding collaborative inquiries and educational interventions in Ontario schools, and in particular research related to a specific six-year-long inquiry in Ontario known as the Student Work Study. An analysis of literature on collaborative inquiry was conducted including research on pedagogical documentations' impact on student learning outcomes. This includes analyses of research both in support of and challenging these elements.

Several electronic databases were used, including ERIC and Google Scholar, to search for relevant literature. Initial search term sets included: student work study, student work, collaborative inquiries, collaborative inquiries in Ontario, pedagogical documentation, community of learners, education reform, formative assessment, assessment, practice, classroom, assessment, collaborative inquiry, instruction, and various author and project names known to the author or cited in other articles. After reviewing the articles for relevance, additional articles were then found by identifying and locating other references cited in the articles reviewed.

The articles selected for this literature review are mainly based on narrative research. Most of the research-based articles describe case studies that used a variety of data

sources and that were often conducted as part of action research (studies by participants on their own reform efforts) or research on particular interventions. Some of the research-based articles also report on surveys of teachers' narratives and practices.

Some of the research analyzed regarding SWS and collaborative inquiries were grounded in ethnographic research, using the triangulation of assessment data (conversations, observations, and products) (Ontario Ministry of Education, 2010):



(Figure 1): Triangulation of Data (Herbst & Davies, 2015), and pedagogical documentation. Pedagogical documentation is both a methodology of teacher research to make children's thinking visible, and interpretable to others, and a methodology for planning emergent curriculum. Content emerges through studying pedagogical documentation. When teachers revisit documentation with children, it has the effects that drive curriculum forward. (Wien, 2008, p.10)

CHAPTER 3: REVIEW OF THE LITERATURE

This section explores the nature of collaborative inquiry in education as it examines the student experience through the Ontario Student Work Study Ministry of Education Initiative. It also examines pedagogical documentation as a participatory research tool and as a form of assessment, collaborative analysis of student work, and the teacher-student-content relationship.

SWS and Studying the Student Experience

SWS spurred professional learning from having started at the student desk, in the actual classroom, according to the needs and assets of those specific learners in that timeframe. It did not focus on what the teacher was doing or saying. Nor was it a project only about students. It included them. It was participatory. It observed the classroom space from the lens of the student desk. Hattie (2008) makes an argument against interventions which observe teachers. In fact, Hattie goes so far as to say, "I never allow teachers or school leaders to visit classrooms to observe teachers; I allow them to observe only students – the reactions that students have to incidents, to teaching, to peers, to the activity." (p. 138). Hattie's thoughts are the hallmark of SWS in that the focus was on student and away from improving teacher. It was a personalized and precise form of professional development and student learning structure.

Ryerson (2017) stated SWS was innovative as it included practice impacting research rather than research impacting practice. Most professional learning does not even reach the classroom (Elmore, 2008) so what predicts performance is what students are actually doing. What students are really doing and saying is the focus, instead of what leaders, district and ministry think they are doing or should be doing and is what predicts performance (Elmore 2008). Elmore goes on to remind educator stakeholders that we learn by doing the work, not by

creating policies about doing the work. The actual work lies in face to face interactions among people responsible for student learning around the work in the presence of the work (Elmore 2008). This exemplifies the structure of SWS that in classrooms across Ontario, a SWST interacted with students and teachers, around student thinking and responses to the classroom environment. Hattie (2008) further illustrates the SWS approach by suggesting educators need to see the importance of seeing the lesson through the eyes of the student and even suggests interviewing students to ask them what they were doing, thinking, and not understanding—this is what will really help teachers see the impact of their teaching. Both Hattie and Elmore's beliefs are rooted in the SWS approach in that students are viewed as partners in the process, whose thinking is observed, described, analyzed and reflected upon to determine very precise and personalized next steps in the teaching learning process.

The initiative emulated an open to learning stance which highlighted strengths and assets of teachers and students in classrooms first. This falls in line with Timperly's notion (2010 as cited in Cameron et. al, 2011) of teachers being adaptive experts instead of being in need of improvement. Innovative in its scope, SWS employed a structure by which its practice impacted research, rather than research solely impacting its practice as in more traditional collaborative inquiries. The Ontario School Effectiveness Framework (SEF) (2010) states the partnership between educators and students is critical for actual learning to occur. This document helps shape school and district actions in Ontario and helps to build Board Improvement Plans and thus School Improvement Plans. Often schools will choose indicators in the SEF they will seek to focus and work on throughout the course of the year. With regard to the teacher student content relationship:

The power of positive teacher-student relationships is critical for learning to occur. This relationship involves showing students that the teacher cares for their learning as a student, can see their perspective, and communicate it back to them so they have valuable feedback to self-assess, feel safe, and learn to understand others and the content with the same interest and concern." (Cornelius-White (2007), as cited in SEF, 2010)

Ryerson (2017) stated that through SWS a key criterion that was explored with SWSTs was whether or not their involvement led to any new learning and that in theory practice-based evidence should lead to change in practice. Ryerson (2017) argued that a significant amount of new learning came into play through this project with reports of changes in practice which were leveraged by looking at the way the typical mundane behaviours in classrooms are perceived by educators. Ryerson noted in her study that one specific study teacher observed behaviours such as fiddling with shoe laces and followed it up by asking the student to explain their thinking and actions. This approach led to a reassessment of the biases made by educators around student engagement and typical behaviours. If not for the ability to objectively observe that student's experience, that discovery would not have been made. Therefore, an approach like SWS, forced educators to take a different look at classroom reality and everyday teaching and learning by having the awareness and courage to argue against the norm, the mundane, (Kneyber, as cited in Ryerson 2016). Student engagement and learning in the classroom is the anchor for professional learning and collaborative inquiry (by being anchored in studying the student experience.) (Ministry of Education 2014).

Ryerson (2017) used a 'mixed method' approach to examine the SWS program on students and teachers. She included survey response data from study teachers, abstracts of study

teachers' work, meeting documents (for example, photographs and documentation of conversations, i.e., pedagogical documentation), and products developed by SWSTs and their partners (for example, research papers, presentations, posters, infographics, blogs and videos). Her findings included seven essential practices and corresponding tensions: (1) fostering learner agency and negotiating power in the classroom; (2) collaborative learning relationships and sufficient time; (3) systematic pedagogical documentation and robust analysis; (4) generating practice-based evidence and new learning; (5) engaging students and teachers as researchers and negotiating power in constructing knowledge; (6) inspiring pedagogical possibilities and confronting dominant discourses; and (7) sustaining innovation and joy in learning and accepting being uncomfortable with uncertainty.

Ryerson (2017) also uncovered challenges and possibilities of embedding the practice of studying the student experience within regular classroom and school structures in order to produce lasting change in education. She discussed implications for students and teachers as leaders in changing schooling, including the unforeseen benefits of extending teacher and academic researcher partnerships.

Ryerson's study addresses questions posed in this paper, including: 1)What new understandings about student thinking can be revealed for schools and boards, by implementing a job embedded collaborative inquiry approach, which studies the experiences of students in classrooms, and perceives the student as a partner in the teaching learning process?

Ryerson's analysis of SWS suggested that SWS had some apparent benefit for students, host teachers and study teachers, (Ryerson 2017). Ryerson named "student voice" as a power shift necessary in producing practice-based evidence. She emphasized that teachers need to work

with students in a unique way by having students actively participate in the learning process. While Ryerson shared that there are opponents to this notion of viewing the student as an active participant because they feel the benefits are only surface level, (Ruddock & Fielding, 2001, in Ryerson 2017), others have found engaging the student in the process has actually led to school change (Fielding 2001; Lodge 2005 in Ryerson 2017). Limitations do exist in forming true learning partnerships amongst teacher and student, (Ryerson 2017), however, Ryerson stressed the importance of finding new pedagogies which foster the partnership between teacher and students in different ways, such as using the SWS structure.

Ryerson (2017) measured the impact on student learning using a synthesis of study teachers' perceptions described in survey responses and meeting documents which measured growth in learning, student self-agency and student well-being. Teachers' abstracts and products revealed a focus on specific aspects of learning, such as self-regulation or spatial reasoning. According to Ryerson, half of the study teachers in the last year of the program in 2015-2016 focused on learning in math. Ryerson found that often study teachers would report on focused areas of curriculum but also on cross curricular interconnected aspects, such as socio-emotional needs, learning and self-assessment skills of students. Differences in a child's collaboration skills, perseverance and ability to engage meaningfully in peer and self-assessments were all described as positive impacts on students (Ryerson 2017).

Taouil (2014) found students' learning skills as measured in Growing Success (2010), improved as a result of the SWS cycle of study in a grade 3 classroom during the Math/Numeracy block. All students who were achieving Level 2 in the study (n=9) improved a grade level or more in learning skills measurable areas: Self-Regulation, Initiative, and

Collaboration. Ryerson defended the notion that when teachers research the student experience with students as partners, then new practice-based evidence can emerge which can inform school and system change (Ryerson 2017). Ryerson's study includes reflections from SWSTs around documentation of students with special education needs which in turn affected the way special education teachers provided pedagogical leadership within schools and caused the boards to provide supports in order to develop an approach to study student experiences.

The study teachers presented their findings which inspired other boards to experiment with their existing models of special education delivery. Therefore, the professional reflective practices around the observations and documentation gathered led to changes in practice (Ryerson 2017). Studying the student experience, a student's reality in classrooms also led to teachers and SWSTs raising important questions around the existing school structures and norms. In the study SWSTs challenged the existing structure of the report card system in Ontario and questioned if it services learning, structures around talk in classrooms and who could speak when, and streaming structures (applied and academic courses in Ontario). Comments describing perceptual data showed teachers and students do not believe students who take applied courses are strong enough but yet observations made during the study showed teachers of these courses underestimate the ability of these students to show critical thinking and communication skills (Ryerson 2017).

SWSTs illustrated how existing norms and structures in Ontario may actually be limiting the learning in some of our students. How observing student experiences with colleagues can potentially question and cause existing structures to change is echoed in one of the conclusions made in a research report published by the Research, Evaluation and Data Management Team of

the Literacy and Numeracy Secretariat, (Ministry of Education, 2011). The process of studying the classroom experience with colleagues allowed teachers to occupy a professional space in which "fluency" of understanding between their instructional moves and the students' responses to these moves deepened and became more intentional and precise. Further, one of the inherent tensions which arise out of Collaborative Inquiry work in schools concerns a two-fold result: the work can lead to change for student but also for teachers and systems: These tensions can serve as points for reflection within collaborative work to inform and deepen school and district CI practices as well as professional knowledge more generally. (Ministry of Education, 2014).

In the Ontario Ministry of Education Report, (Campbell, Clinton, Fullan, Hargreaves, James and Longboat, 2018), the vision, goal and questions for the public and stakeholder engagement process identifies the importance of really knowing the student experience: "OUR VISION is that students' experiences – their needs, learning, progress and well-being – are at the centre of decisions about future assessment design and use." In the Student Work Study Collaborative Inquiry there is no predetermined goal or instructional strategy to aspire to, rather it is the already existing classroom space and life and pedagogical actions of the existing teacher which are the starting points. Therefore, new learning and plans of action come from the tacit or existing knowledge of individual teachers acting as researchers and then potentially growing into new actions leading to a growth in pedagogy. The change is manifested in the personalized work of the classroom (Cameron et.al. 2011).

Pedagogical Documentation - Student (Empowerment) in Participatory Research

It was important to explore what SWSTs knew to analyze and what to reflect upon, along with how it was really known what students were doing, and what they were saying throughout

the life of the inquiry. SWS practitioners used pedagogical documentation to capture observations. The tools involved in pedagogical documentation included anecdotal observations, transcriptions of conversations, interviews, photos, and videos, and recordings, all of which made both student thinking visible and teacher learning profound.

> Pedagogical documentation invites us to be curious and to wonder with others about the meaning of events to children. We become co-learners together; focusing on children's expanding understanding of the world as we interpret that understanding with others. We document not merely to record activities, but to placehold events so that we might study and interpret their meaning together. Out of that slowed-down process of teacher research, we have the potential to discover thoughtful, caring, innovative responses that expand our horizons. (Wien 2013, Taouil 2012)

Wien (2013) explains that by slowing down the pace of curriculum through the capturing and importantly, the analyzing and reflecting of documentation, more precise and personalized next steps in learning and teaching are created. During the SWS inquiry, SWSTs realized that the pedagogical documentation helped to slow down the pace of teaching and learning by pausing to reflect on the documentation and then plan more precise next instructional steps. SWS educators ventured into this territory organically in classrooms as a result of being immersed in the instructional core and all the while by building partnerships between student, teachers, and content/student work. (City et al., (2009); Fullan & Langworthy 2014).

The pedagogical documentation revealed more than just specific classroom-based strategies to improve learning (eg. graphic organizers to improve writing ideas), to more complex, layered, overall understandings of what works in improving student thinking and

mindsets around learning (creating risk-taking classrooms involves honouring mistakes in student work by using the mistakes to teach concepts more deeply). Pedagogical documentation in this way, is a process of making pedagogical work open to reflection, dialogue, and change (Ontario Ministry of Education, 2015). SWST's found that by using pedagogical documentation during classroom visits, a more organic understanding of assessment for and as learning as well as being responsive in teaching, impacted on student learning, (Ryerson 2017).

SWST's as teacher researchers engaged in an iterative cycle of capturing, analyzing, reflecting on pedagogical documentation of students' actions which often led to discoveries of learning phenomena and themes which sparked wonder, enlightenment, discomfort at times, sadness, etc., which then acted as a catalyst for future interventions, reflections, next steps and inquiries. Often the pedagogical documentation sparked more inquiry. Pivotal moments in pedagogical documentation (Ryerson 2017) often occurred when students themselves were asked to join the conversation around their own documentation. Their thoughts and feelings and own self-assessment were invited as part of the partnership building in SWS between teacher, SWST and teacher and student, (Fullan & Langworthy, 2014). SWS created the conditions conducive to creating and inviting student as participant in the practice-based research through the pedagogical documentation process. Although students and student work are the focus of CI, students also play a role within CI processes. Educators can involve students in any and all aspects of the CI process, from identifying an area of inquiry, working together to capture documentation of learning, and participating in analysis through assessment as learning. Students are the experts of their own experience. Finding creative ways to involve students in CI

processes may open new possibilities for achieving excellence, equity and well-being in education. (Ministry of Education, 2014).

Through pedagogical documentation, students, who are in the instructional core are empowered in their own learning process. Empowerment is "the opportunity and means to effectively participate and share authority." (Simon,1987). Simon explores educational possibilities and questions how classroom practice might be related to students' futures. He stresses a pedagogy that gives voice to the voiceless in classrooms. In the SWS-CI, the original design was to identify who the students achieving in the middle of the achievement chart are? Who are these students of mystery who most times did not have voice? Simon (1987) talks about using pedagogy as empowerment by providing a curricular and instructional agenda enabling students to draw upon their own cultural resources as a way to learn new skills. Inviting students in and allowing the full expression of various voices engaged in a partnership and dialogue is key to empowering students. According to Simon, an education that creates silence is not an education. Teaching and learning must be linked to the goal of educating students to take risks, to struggle with ongoing relations of power…" (1987).

Campbell et al. (2018), state that the vision in Ontario should be to create an education system which really knows its students and works alongside them to enable them to reach their fullest potential in a globally changing world.

Realizing this vision requires educators who know their students - really know them culturally, socially and emotionally - as participants in their learning process, and in so doing build the necessary relationships with their students. Our concern with students' academic achievement must be accompanied by providing equitable schooling and education by taking into account the

experiences, needs, languages, cultures, varied histories, interests, expectations and aspirations of students and those of their parents/guardians and communities. (Campbell et al., 2018).

Pedagogical documentation is one element that empowers students and recognizes a students' work, thinking, position, and power in the classroom. Waller and Bittou (2011) claim pedagogical documentation is central to the development and establishment of shared activities and mutual engagement in learning communities. They state this is because children's perspectives and learning processes are documented in various ways so they can be shared, discussed, reflected upon, and interpreted. This is echoed in the observe, analyze and reflect notion embedded in the SWS-CI, (Ministry of Education, 2011). Dahlberg, Moss and Pence (2007), in Waller and Bittou (2011), view pedagogical documentation as a vital tool for the creation of reflective and democratic practice (p. 145). This idea supports Simon's (1987) pedagogy of empowerment by using a medium like pedagogical documentation in the classroom setting in order to give voice to students and recognize their cultural and learning identities through making pedagogy visible in the documentation. Dahlberg, Moss and Pence (2007 in Waller & Bittou 2011) view pedagogical documentation as central to meaning making and allows practitioners and others to engage in dialogue and negotiation about pedagogy through making it visible. Others view it also as a way of classroom assessment and as a tool for thinking, next steps, feedback and dialogue around learning, (Cowie & Carr 2004, pg.95, as cited in Waller & Bittou 2011). In this way, it can establish membership of a social community of learners, encourage participation in such a community, and support authentic continuity of learning,

They provide a venue for the negotiation and navigation of individual and collective learning trajectories. They invite participants to discuss together what is being learned and to decide what to do next. This storying and restorying constructs multiple pathways of learning as a work in progress. (Cowie & Carr, p.96, 2004 in Waller & Bittou, 2011)

This quote connects with City et al.'s (2009) stance around improving education by doing the work of teaching and learning right in the instructional core. These ideas seek to address the questions posed in this paper: 1) What new understandings about student thinking can be revealed for schools and boards, by implementing a job embedded collaborative inquiry approach, which studies the experiences of students in classrooms, and perceives the student as a partner in the teaching learning process? 2) How can school leaders implement this approach in schools and districts? 3) How does this type of approach improve student engagement, learning and school culture?

Waller and Bittou's (2011) research in early years settings identifies the value of pedagogical documentation as a tool in participatory research but also uncovers how pedagogical documentation can be problematic and should not be adopted in place of ethnographic research but instead grounded within it. Three areas of concern were found in using pedagogical assessment with young children in this study. Methods used included both traditional tools of interviewing (practitioners and parents) and observing children at play and a variety of 'participatory tools' with children, which are also elements echoed in SWS CI. These tools included taking photos, book making, tours of setting and the outdoor area and map making. A range of mainly quantitative data is gathered in the form of observations, video and photographic

evidence and assessment of children's 'Involvement Levels' (Laevers 1994 in Waller & Bittou, 2011) and questionnaires for parents.

The researchers also framed this study around the theory of listening to young children- the multi method 'Mosaic approach' described by Clark and Moss (2001, 2005). Waller and Bittou describe this method as using both traditional tools of observing children at play and a variety of 'participatory tools' with children thereby enabling children to create a living picture of their lives (Clark & Moss, 2005, p13, in Waller & Bittou (2011)). This method echoed strategies used in the SWS-CI also to capture a students' reality in the classroom through pedagogical documentation tools such as photos, observation, and videos. In Waller and Bittou's study, they involved children and adults in using tools together outdoors (Stage One), and to document perspectives; voices as stressed by Simon's work (1987). Then data was collected with children using digital photographs and film to record their perspectives, which then became the starting point for discussion with an adult. The discussions were then recorded as a 'learning story' (Carr 2001 in Waller & Bittou 2011). The child and practitioner discussed a child's drawing, painting, or photograph (that is a representation of the child's interest, play or activity). The discussion was then recorded by the practitioner and published alongside the image. The learning story was then used to inform planning and as record of learning. Waller and Bittou (2011) add that like in the Mosaic approach data involving adult perspectives is collected through observations, interviews with practitioners, research reviews and questionnaires for parents, and in Stage Two the information gathered was reviewed and reflected upon for action (Clark & Moss 2005 in Waller & Bittou, 2011).

This process is reflective of the SWS-CI process of co-observing, co-analyzing and co-capturing and co-reflecting on the documentation in order to plan precise next steps for instruction for teacher and for learning for student. Waller and Bittou described it as having reflected findings resulting from ongoing recent research in England. In the project, three and four year old children were given regular opportunities to play and learn in natural, wild environments. They maintained that the research findings were analyzed from a sociocultural perspective focusing on transformations of participation. Specifically, the authors maintain their research focuses on a specific learning story as an example of pedagogical documentation to critically reflect on the benefits of the participating children and adults in documenting their experiences. The researchers identified three main challenges for the use of pedagogical documentation in participatory research and practice in early childhood: 1) Does using 'participatory' tools necessarily engage children? 2) Does the adult research agenda inevitably change children's experiences? 3)How does participatory research empower children?

First, the assumption by many is that just by implementing pedagogical documentation in the learning space, automatic participation will take place. Waller and Bittou (2011) discovered this not to be true. In fact, a learning story in the study described 2 boys, named Jake and Joseph, aged 4 who both declined to use their own cameras to document their play outside, and so instead were documented by an adult researcher, described Jake as saying, "What are you doing just standing there?" This reminds me of my time as a SWST when entering classrooms sometimes, children in the study would wonder why I was there observing and would restrict their normal activity when they saw my ipad or pen. It wasn't until they felt comfortable and forgot my role or purpose that they then would resume normal routines. For this reason, the

authors argue that one cannot assume the tools themselves automatically invite authentic participation. Waller and Bitou (2011) point out a fascinating conclusion in that a challenge of using pedagogical documentation tools is how children view and accept adults as an accepted member of children's groups in order to understand and interpret their experiences. A way to facilitate this in SWS-CI and argued for by Corsaro (2005, p. 55 as cited in Waller & Bitou, 2011), is for the adult to wait for permission by the child to participate in their activities, which he calls the 'reactive' method. This too again lends itself to giving power and voice to an equal partner in the pedagogical documentation process.

Another challenge posed by the authors was how to record or capture moments in a child's natural environment without changing it. This brings up issues of ethics and power. Namely, because if researchers or teachers as researchers give children access to the participatory tools children may not be acting as they would normally without the tools (Edmond 2005, as cited in Waller & Bitou, 2011). On the other hand, children may want to please the adult researcher and thus behave again in ways they normally would not have had the participatory tools and adult not been in the same environment. This potentially is a source of bias that might distort the observations and thus data collection.

This engaging of students in the research provided students and teachers in the process to negotiate who has the power to construct knowledge. The SWC-CI also created conditions for students to become actively involved in their learning but also in the research part of it. SWSTs talked about the importance of taking a participatory approach in Ryerson's work (2017), by describing this as a collaborative process between teacher, SWST, and students- the research is

not by the researcher but with the researcher. In this way, student is seen as partner and collaborator whose voice can inform practices within systems.

However, as in Waller and Bittou's example above with Jake and Joseph, there is a need for trust in the relationship in order to check for biases and assumptions and personal opinions and interpretations. Many SWST began to explore this dimension of power when sharing information with students and found students interpretations and judgements about the documentation differed from the educators. Many host teachers and SWSTs acknowledged that true listening to children required at times letting go of power (Ryerson 2017). In SWS-CI capacity building efforts focused on the ethical use of pedagogical documentation and the methods to gather it to create data to support change and proof of learning. The letting go of power the SWSTs mention in Ryerson's work is not inherent in all educational reform efforts.

Sharing of power in the student-teacher-content sphere is shown in one specific job embedded collaborative SWS-CI supposition and study, which centered around creating knowledge building classrooms where students are regarded and perceived themselves and each other as a community of participatory researchers, who invested in peer learning as much as in their own (Taouil 2014). The focus was on the learning of mathematics within two cohorts of grade three classrooms during the 2012-2014 school years, within the WECDSB district. The significance of this study was rooted within the constructivist paradigm of teaching and learning in the 21st century. Specific classroom conditions were created to allow students to be active participatory agents who collaboratively build knowledge and learning through deep questioning, shared decision-making, exploring, assessing, reflecting, documenting and sharing what they know in community with peers according to their own pace, and then evolving into using

purposeful technology to deepen this community knowledge building and investment in each other's learning.

Study methods included SWST visiting classroom 1-3 times a week for 1 to 2 hours from October to May in both academic years. Pedagogical documentation, student observations, teacher- student interactions, SWST-student interactions, teacher- SWST interactions, teacher-SWST-student interactions, and interviews, audio, video transcriptions, work samples, and report card grades were used. The total number of students totaled 46 with 12 total students' quantitative data tracked using report card grades in math strands and learning skills areas pre and post supposition. The purpose of this work was to a) understand how students can digitally use the contributions of peers to build and improve their own mathematical understanding around number sense and relationships, and flexibly apply it to other mathematical areas, b) to learn how students' mindset impacts perseverance on math challenges and, to illustrate how perceiving students as active participatory decision-makers impacts classroom and learning cultures, c) to determine how allowing students' to work at their own pace within classroom and peer collaborative partnerships during Mathematical investigations affects understanding.

The establishment of a classroom culture firmly grounded in growth mindset and student teacher collaborative partnerships positively affected students' self-perceptions of themselves as participatory researchers and agents of learning thereby increasing the level of risk-taking questioning and wonderings within ongoing collaborative interactions, (Taouil 2014). Host teacher and SWST were perceived by students as a part of the learning process as teachers' questions wonderings and enquiries were equally authentic and based primarily on students

thinking. Student strengths, and transitional understandings were the foci that drove instruction and framed questioning and next steps.

Student/teacher/SWST collaborative partnerships positively impacted the degree to which students were willing to risk takes, share openly, reflect constructively and reconsider transitional understandings. The shift from a fixed mindset to a growth mindset enabled learners to appreciate the relevance and importance of their student voices in the collaborative construction of knowledge through student-driven research, but authentically supporting the learning of their peers and teachers.

See **Appendix 1** (Research Poster: Pre and Post Data for sample students). The data gathered indicated all students improved a level or half level in all math strands from pre to post supposition. Additionally, and some would argue more importantly, in the learning skills area of the provincial elementary report card all students improved by one full or half letter grade in 3 focused areas: Initiative, Collaboration, and Self-Regulation.

Limitations in this study (Taouil 2014) included the challenges to sustain and spread this pedagogy beyond that current classroom. Additional challenges included potential biased outcomes in SWST visiting students and interrupting normal work patterns and behaviors, as also raised by Waller and Bittou (2011) as well as classroom teachers working with their own students and determining report card data post supposition. Continued research is needed in the area of students building knowledge collaboratively as participatory researchers and its impact on mindset around math understanding. In this study, clearly the teacher and SWST shared knowledge and pedagogical documentation data and participation in the research with the students in the study and class.

Wien, Guyevskey and Berdoussis (2011) explain pedagogical documentation as the 'counterfoil' to the positioning of the teacher as all knowing judge of learning." Because pedagogical documentation lends itself to wondering and inquiring rather than knowing with absolute certainty, Wien believes it involves a "participatory consciousness" (Heshusius, as cited in Wien, Guyevskey & Berdoussis 2011), which causes adults to listen with empathy. Wien, Guyevskey and Berdoussis (2011) explain that the understanding of pedagogical documentation as a research method is aligned with ethnographic research in education that began in the 1970's. This tradition uses qualitative research methods from sociology and anthropology and utilizes analysis, interpretation and description of observational data from field notes (as in SWS-CI) and interviews and visual materials, artefacts and images.

The use of visual data according to Wien, Guyevsky and Berdoussis (2011) dates back to anthropologists such as Margaret Mead (1972) and Gregory Bateson in the 1930's. Wien, Guyevsky and Berdoussis (2011) ascertain the connection between pedagogical documentation and ethnographic research recognized by educators in the Emilia Reggio approach in Northern Italy, whose theory included making learning visible especially in the early learning field (Wein et.al 2011). Despite discussed strengths and challenges in using participatory tools in education research through pedagogical documentation, the purpose is clear and necessary in collaborative inquiries seeking to improve learning and teaching outcomes, "Documentation is not about finding answers, but generating questions," (Filippini, as cited in Turner & Wilson, 2010, p.9 in Wein 2013).

Formative Assessment and Analysis of Student Work

Pedagogical documentation has many different purposes: one of them is assessment for, as and of, learning. This includes conversations, reflection and analysis of student actions, thinking and work. Just like traditional student work products alone cannot fully and authentically reflect what a child truly has learned, nor can pedagogical documentation do this on its own. Instead, as mentioned previously, the triangulation of data: using student work/product, conversation and observation is needed to gain a more authentic picture of what a students' assets and potential areas of growth in learning are, (vanBarneveld 2008). Many educators have found that as they give students "opportunities to seek answers to questions that are interesting, important and relevant to them, they are enabling them to address curriculum content in integrated and 'real world' ways and to develop – and practise – higher-order thinking skills and habits of mind that lead to deep learning" (Ministry of Education, 2011). Dialogue with students using documentation provides an opportunity for shared reflection that supports both assessment for learning and assessment as learning practices. On the one hand, documentation provides educators with the "evidence" to provide timely, specific and descriptive feedback to move learning forward. On the other hand, it allows educators to go one step further, to help students self-assess, to "become directly involved in the learning process, acting as the 'critical connector' between assessment and improvement" (Earl, 2007, in Capacity Building Series, 2011).

Little et.al, (2003) recall the importance of the slogan coined years ago, "Examining student work for what matters most," which suggests that its practice could help improve school and district outcomes. Its value is in the very fact that it brings students into the centre of action

and conversations around analyzing their work and a teacher's next instructional steps. Little et.al, (2003) argue that by examining students work collaboratively with one another, teachers will increase their opportunities to learn, to create professional learning communities that are both willing and able to inquire and question practice, and to focus school based conversations around teaching and learning with the student at the forefront. Bringing students to the forefront speaks to the power dynamic inherent in the teaching learning process. Examining student work collaboratively as assessment solidifies the partnership between student teacher and content. Examining student work lends itself to practitioners becoming reflective not just about the student work and their students' next steps, but also about their own practice and their own professional development. (Taouil, 2012). New learning partnerships between teachers and students are the essential foundations for effective new pedagogies. (Fullan & Langworthy, 2014).

In SWS-CI, both SWST and teacher collaboratively analyzed student work. This was a clearly defined essential practice which engaged the educators in robust analysis that drew in the perspectives of students and teachers as they analyzed documentation (Ryerson 2017). Through this analysis, SWSTs were able to get to know exactly where the student is in their learning and knowledge, and where they needed to go next, which enabled them to understand what was evident in the student work/learning thereby adopting an "asset stance' (i.e. describing what students could achieve rather than what they were unable to do); unlock misconceptions, and challenge assumptions about the capability of learners. Ryerson quoted one SWST as saying the conversation shifts through this process from, 'ah he doesn't get this…' to the important role of questioning, probing and really listening to the student thinking (Ryerson, 2017).

The triangulation of data was inherent in SWS-CI and outlined by Ryerson 2017 when she noted that students were also encouraged to join the process of analyzing documentation as a form of self- assessment to build their own metacognition skills. Valuing observations and conversations around a students' products with the student as part of the assessment acknowledged that a balanced approach to assessment must involve the triangulation of data for richer understanding of the student. (Ryerson 2017).

Little et. al (2003) describe looking at student work for teacher learning, teacher community and school reform. They assert there is a growing conviction to learn from paying close attention to students' experiences and actual student work. Again, the element of studying the student experience is outlined in the work of these authors. Some might wonder what is new about analyzing student work in teaching? The researchers identify that what is different in growing trends in education now is the fact that teachers are no longer grading student work in isolation. In recent years, organizations engaged in school reforms have brought teachers together to collectively do what they had previously done alone; that is, look at student work and think about students' performance in the classroom.

Little et.al (2003) conducted a two-year study involving teachers looking at student work. They sought to identify specific practices employed by teachers who come together to examine student work in the context of broader programs of school improvement and school based professional development. They worked with three organizations through case studies of teacher groups: Harvard Project Zero, the Coalition of Essential Schools, and the Academy for Educational Development. Each group had developed a distinctive approach to looking at student work that reflected the organization's history and particular interests (Little et.al. 2003).

Four sites were the foci: an elementary school affiliated with Harvard Project Zero; a middle school working with the Academy for Educational Development; and two high schools, one in each of the two participating regions of the Coalition of Essential Schools. Little et. al (2003) found that each organization had developed a special approach to the process that reflected their organization's history and interests. For example, Harvard Project's focus was based on the notion that student work offers a window into children's thinking and learning, and so teachers' collaborative reviews of that work show a model of school improvement from within. These teachers always kept the student at the center of the conversation, much as was the case in the SWS-CI, (Taouil 2012).

Methods included the collection of qualitative data such as visits at the school site, discussions, observations of participants working together, video recordings, copies of student work, protocol guidelines, and agenda. These data sources provided evidence of local practice. Interviews with teachers, administration and project staff members helped the researchers determine the meaning and value of those practices on participants. They sought to learn from these projects about looking at student work as a resource for instructional improvement, while understanding that the projects held wider purposes.

They investigated how looking at student work took place in each school and how the various approaches created opportunities for teacher learning. Despite differences in pedagogical practice the projects and sites shared three common elements according to the researchers: 1) Bringing teachers together to focus on student learning and teaching practice. 2) Getting student work on the table and into the conversation. 3) Structuring the conversation.

Regarding the first element teachers met during their regular work schedule to look closely together at evidence of student learning and where dialogue on student learning and teaching made up the meeting agenda. Gradually, they found that the learning focused conversations became a part of school culture, structures, schedules, relationships and habits. Teachers looked forward to their structured meeting times. What these projects demonstrated is that if teachers are engaged together in the tough work of instructional improvement the school must organize for it (Little et.al. 2003). This notion is reflected in the built-in release time structure that was used during SWS-CI for host SWS teachers and SWST teacher to regularly meet together to co analyze student work and thinking and to co plan next steps. (Taouil 2011, 2012).

With respect to the second point, the researchers cited numerous published testimonials as proof of the value of having teachers come together to talk about their work. However, the authors argued that in typical teaching and learning interventions the professional development may not have included a serious way for placing student work on the table to analyze and discuss student thinking and teacher next steps. This is opposite of the premise of SWS CI, which was that the analysis of student work was at the table at most if not at all teacher meetings to discuss next steps. The authors found these projects showed an expectation that there would be student work to look at and time set aside to discuss it at the meetings. One teacher in the study explained that looking at student work "made me more aware of the work I was looking at. Before, if I looked at something, I would say, "oh that's good or yeah that makes the standard. But now I can go into more detail with it and I learned that through this experience." (p. 188).

In this regard, facilitators in Little et.al.'s study had to remind participants to refrain from making judgements and to concentrate on describing what they saw in the student work and on posing questions rather than jumping to conclusions. This is mirrored in the SWS CI process so much so that City et al.'s (2009) talk about the importance of sticking to facts and objective statements only when making observations during classroom visits or when analyzing student work.

Impact on Teacher Professional Development Protocols

Concerning point number 3 in Little et. al.'s work (2003), (Structure in the Conversation) another feature of these projects was the way they promoted the use of protocols which are procedural steps and guidelines to organizing discussions and structure participation during the meetings. Although the projects and the individual teacher groups used different protocols they did share some central common features. First, the protocols used by these organizations were designed to interrupt or slow down teachers' usual instinctive responses to student work. The protocols encouraged educators to ask what that work can tell them about student understanding and teaching practice. Therefore, facilitators had to remind participants to refrain from making judgements and to concentrate on describing what they saw in the student work and on posing questions. Protocols meant to have teachers describe what they saw in the work without judging it and then to interpret the work. The protocols organized chances for participants to raise questions triggered by examples of student work. They also gave teachers a chance to offer and receive feedback. This protocol is very similar to pedagogical documentation protocols seen in collaborative inquiries, such as in the Student Work Study Collaborative Inquiry. (**See Appendix 3)**

This notion is echoed by Katz and Dack, (2014) who describe protocols as 'structured sets of guidelines quote or tools that are valuable in creating transparency and efficient communication separating the practitioner from the practice establishing a Common Language of inquiry and allowing the focus to be on the learner and the learning.' Protocols were used in the SWS-CI when analyzing pedagogical documentation so that educators slowed down their interpretations and need to draw judgements about skills learned or not yet learned. MacDonald and Sanchez (2010) state that slowing the process and revisiting documentation creates deeper meaning and requires a sensitivity in order to welcome questions and assumptions.

During the course of the study at all sites, Little et.al., (2003), pointed out that teachers were feeling uncomfortable in opening up discussions around teaching and learning in that defending one's design or choice of student assignment along with the student work became apparent. While analyzing student work, it is natural to then analyze too and reflect upon, in a mutually supportive community, a teacher's own pedagogy and instructional capabilities. Again, protocols help to keep the discussion purposeful, focused and centered around student learning. Analyzing student work collaboratively then is identifying student learning and next steps in the student work and tasks, but also as a part in the process, reflecting upon and identifying next steps in teaching and instruction.

In Little et al's study, one teacher recalled that "the first few months of analyzing student work together we were not dealing with tough issues. Everyone was polite. (p.190)." However, the group leader at that site explicitly and persistently linked their conversations about teacher practice to student achievement. At meetings she would recall the goal of looking at student work to improve student achievement- to use that cycle of inquiry to try strategies and change

student achievement levels." This coupled with an effort to create a climate of support allowed the participants to grow more comfortable in dealing with the sensitive and tough issues, (Little et. al. 2003).

Culture of Niceness

Opening the space up, as MacDonald and Sanchez (2010) call for, also potentially opens the space up for moving beyond the culture of niceness that tends to materialize when teachers gather to discuss teaching and learning. City et al., (2009) urge teachers gathered in professional networks to move beyond the strong culture of being nice to one another in education. They stress that protocols help to do this by providing educators with alternative verbal structures that set aside normal defaults. Another approach is to emphasize that the practice can be separated from who they are as people and can be improved. The tendency in education is to think more about the individuals performing the work rather than the work itself.

During rounds in education, which is a protocol of observation for networks of teachers in classrooms framed after the medical model of rounds, the goal is to learn about teaching, not to focus on teachers, in that the goal is to put "heads down" and focus on what students are doing and saying not on the teachers (City et al., 2009). This is also true when analyzing student work collaboratively. The goal is to look at student thinking and next steps in the work, not at the teacher who designed the work. Katz and Dack (2013) assert that creating the conditions for real new learning means pulling person and practice apart. It means intentionally interrupting the culture of niceness and biases.

Little et. al. (2003) concluded that the value of looking at student work resides in its ability to bring students more consistently and explicitly into deliberations among teachers.

Looking at student work as a collective was found to expand teacher's opportunity to learn, cultivate a professional community that is both willing and able to inquire and wonder about practice and about student thinking, and to focus school-based conversations directly on the improvement of teaching and learning. The researchers argue these are benefits worth pursuing. However, to secure these benefits, organization, leadership and persistence are necessary elements. The Ministry of Education's monograph on collaborative inquiries highlights this possibility, by asserting that meaningful participation in CI leads to new learning that can be shared and applied. Having protocols and procedures is useful to build capacity for engaging in CI work; however, when CI becomes more procedural than substantive, its effectiveness decreases, and it can shift the nature of CI work from collaborative engagement to compliance. School teams can get mired in the procedures of data analysis rather than focus on the practical meaning of the data itself. Participation in a CI is not an end in itself but leads to new learning and understanding that can be shared and applied, (Capacity Building Series, 2014).

Assessment as collectively analyzing student work, addressed in this study, and in this review, including the previous section on pedagogical documentation, address the questions posed in this paper: 1)What new understandings about student thinking can be revealed for schools and boards, by implementing a job embedded collaborative inquiry approach, which studies the experiences of students in classrooms, and perceives the student as a partner in the teaching learning process? 2) How can school leaders implement this approach in schools and districts? 3) How does this type of approach improve student engagement, learning and school culture?

Collaboratively analyzing student work is part of the assessment for learning and assessment as learning process: both necessary elements in providing students ample time, opportunities and resources to learn new skills and knowledge and to make their thinking visible.

Growing Success (2010) names the importance of assessment for and as learning as it describes assessment as a process of gathering information that justly reflects a student's achievement. It describes assessment's purpose is to improve student learning. Assessment for the purpose of improving student learning is seen as both "assessment for learning" and "assessment as learning". As part of assessment for learning, teachers provide students with descriptive feedback and coaching for improvement. Teachers engage in assessment as learning by helping all students develop their capacity to be independent, autonomous learners who are able to set individual goals, monitor their own progress, determine next steps, and reflect on their thinking and learning, (Ministry of Education, 2010).

Emergent Themes of SWS-CI

Formative assessment of student work was another large element of SWS-CI in addition to pedagogical documentation as assessment. In its first year of the inquiry, in Ontario in 2010, assessment for learning included continual refinement and improvement of student work and thinking. Improvements were found to occur as a result of ongoing, incremental and timely assessment activities that were often co constructed with students (LNS, 2011). Four interrelated themes emerged from this notion during the inquiry:

- Self - Assessment
- Co-Creating Criteria (Success)
- Explicit Feedback

- Graphic Organizers

Self-Assessment/Metacognition

Two themes including Self-Assessment and Explicit Feedback for the purposes of this paper will be addressed in this section.

Self-assessment could be formative or summative and could include peer assessment/feedback. It was described by SWSTs as students reviewing their thinking and work while referencing a rubric or success criteria and judging how successful they had been in meeting the success criteria. This form of assessment helped students in growing to become more aware of their strengths and more aware of their potential areas of growth. It assisted students in developing metacognition - 'thinking about their thinking'- and to focus on the next steps needed to improve their work and skills. (Ministry of Education, 2011). Examples referenced in reports to the LNS by SWSTs included students re reading their work while referencing feedback/and or success criteria to find ways to improve; students working in pairs or in groups and editing each other's work to provide descriptive feedback; and students highlighting success criteria and comparing their work to it to see how well they had met the criteria.

In Ryerson's (2017) findings, student learning through SWS-CI was often reported as an impact nuanced and unique to each context. An increase in students' metacognitive skills were reported by way of student frequent reflections about their own learning. One element of SWS-CI is to bring student participation, voice, and involvement to the forefront of the student teacher content partnership. Pedagogical documentation as formative assessment does this very thing as does seeking to improve a student's metacognitive awareness.

Active involvement of students in the learning process is at the center of formative assessment. Ultimately, the goal of formative assessment is to guide students toward the development of their own "learning to learn" skills (also sometimes referred to as "metacognitive" strategies). Students are thus equipped with their own language and tools for learning and are more likely to transfer and apply these skills for problem solving into daily life; they strengthen their ability to find answers or develop strategies for addressing problems with which they are not familiar. In other words, they develop strong "control" strategies for their own learning (OECD/CERI, 2008, p10). "Metacognition" involves awareness of how one goes about learning and thinking about new subject matter and is sometimes referred to as "thinking about thinking." The student who has an awareness of how he or she learns is better able to set goals, develop a variety of learning strategies, and control and evaluate his or her own learning process. (OECD/CERI, 2008, p10).

According to Growing Success (2010), meta-cognition is also evident in assessment as learning. The process of developing and supporting student metacognition includes students who are actively engaged in this assessment process: that is, they monitor their own learning; use assessment feedback from teacher, self, and peers to determine next steps; and set individual learning goals. Growing Success (2010) goes on to point out that assessment as learning requires students to have a clear understanding of the learning goals and the success criteria. It focuses on the role of the student as the critical connector between assessment and learning. (Growing Success, 2010.) This notion highlights the role of student as critical partner in the relationship between teacher, student and content and as thus his/her valued and necessary place in the instructional core.

Explicit Feedback

In addition to self-assessment and peer assessment, explicit feedback as part of assessment for learning was also reported in the SWS-CI as being purposeful. Intentional suggestions were often based on success criteria and were explicit enough to lead to a follow up action on the part of the student to improve their work (Ministry of Education, 2011). In the SWST reports teachers reported on the impact of both oral and written feedback. Written feedback was described as an ongoing continuous recurring process that responds to students' work in ways that provide a framework for the next potential step for a student. It was described as a component of formative assessment providing students with additional opportunities to improve their work. Some examples cited in the reports included frameworks such as, 'two stars and a wish, and 'Post-It Note' comments. Others reported offering one piece of feedback orally, showing what is positive and an asset in the work, and then offering one piece "feedforward" which suggested a way in which students could improve upon their work comparing it to the criteria or curriculum expectation. (Taouil 2012, 2014). Differing slightly from written feedback, this was dynamic in that it was often interactive with students right in the moment of learning and it existed as a prompt or a word of encouragement or clarification or a question. It allowed the student to reflect rethink and refine their work. SWSTs reported it allowed teachers to interact more regularly and immediately with students and helped them improve their work.

Several SWSTs reports cited the "think pair share" strategy where students share their work with a peer for suggestions. Some SWSTs reported that when students worked with their peers around offering and receiving feedback, more risk taking behaviours were observed in their

learning, “In classes where students were able to work with others, where their thoughts and ideas were valued, students felt open to risk.” (Ministry of Education, 2011).

Visible Learning

In his research, John Hattie (2012) discusses a principle called “visible teaching and learning.” Hattie explains that when the teaching is visible the students will know what to do and how to do it. And, by that regard, if then the learning is visible, then the teacher will know if and how the learning is occurring. Hattie stresses the importance of the student-teacher-content partnership as essential in the assessment for learning process, so that learning goals, and curriculum expectations can be successfully achieved. Hattie states that teachers and students need to work together to reach the learning goal. He affirms that the greatest impact on student learning happens when both the teaching and learning are visible. He stresses students need to become their own teachers through self-assessment.

When Hattie speaks of making the process ‘visible’ pedagogical documentation certainly plays a role in making this possible in classrooms. Through the observation, description, analysis and reflection on student work and thinking, students’ understandings, strengths and also potential areas of growth become known, hence visible. Hattie ascertains that expert teachers are aware lessons don’t always go as planned but an expert teacher is skilled at monitoring how and what their students understand. And they do this by gathering data. The information Hattie speaks of here is student work, student thinking as captured through observations, oral responses, artefacts, and yes pedagogical documentation. This is also found in the Ministry of Education’s Growing Success document,

Teachers will obtain assessment information through a variety of means, which may include formal and informal observations, discussions, learning conversations, questioning, conferences, homework, tasks done in groups, demonstrations, projects, portfolios, developmental continua, performances, peer and self-assessments, self-reflections, essays, and tests. (Growing Success, 2010)

Again, as emphasized in Waller and Bittou's (2011) work, the analysis of student work can potentially inform teacher practice, student learning and also educational reform practices. Clearly, assessment for learning and assessment as learning have its place in the desire to improve student outcomes and learning.

According to Growing Success (2010), the primary purpose of assessment is to improve student learning. And, as assessment for learning will not accurately reflect a student's growth potential without the use of explicit and timely feedback, "as part of assessment for learning, teachers provide students with descriptive feedback and coaching for improvement." (Growing Success 2010). As educators, the hope is that students could potentially assess each other and their own learning through the formative assessment process in order to truly become autonomous and successful in their own learning experiences.

CHAPTER 4: DISCUSSION

This paper explored the effects of using a job embedded collaborative inquiry process which focuses on the student as a central partner in the teaching and learning process. The collaborative process included a systematic co-analysis, co-description, and co-reflection of student work and thinking. Pedagogical documentation, was used and regarded as a vital form of assessment for, and as, learning. This section connects the research and conclusions found in the reviewed literature to the questions posed in this paper: 1)What new understandings about student thinking can be revealed for schools and boards, by implementing a job embedded collaborative inquiry approach, which studies the experiences of students in classrooms, and perceives the student as a partner in the teaching learning process? 2)How can school leaders implement this approach in schools and districts? 3)How does this type of approach improve student engagement, learning and school culture?

Research Question 1- New Understandings

As a result of my own experience, my reading of the literature, and reflection on these, I believe that in relation to Question one, the new understandings include the following:

- a shift away from just covering curriculum expectations to a focus on the whole learning process and critical partnerships between student-teacher and content
- objectively observing student experiences produces new discoveries about student thinking as well as different ways to think about and question already existing school structures
- pedagogical documentation gives students choice and voice over their learning as an authentic tool of assessment

- the collaborative analysis of student work leads to improved student thinking and increased teacher reflection and refinement of practice

In the reviewed literature, impact on student learning was found to occur as well as impact on teacher. Examining the student experiences in the classroom on an ongoing, regular basis, and doing so in partnership with another skilled practitioner teacher, in partnership with student, leverages student learning. This learning included new insights into the power of student being perceived as a participating partner directly in real classroom time and space. "There is only one way to get depth and that is in the daily workplace through learning in the setting in which you work." (Fullan, 2010, p.53). It also leads to teachers reflecting on their own practice as they examine the student experiences. It causes them to question, to wonder, to reflect and refine based on observations of student behaviour and thinking.

SWS focuses on understanding and improving instruction for 'students of mystery' or on those who are not progressing as expected. (Ministry of Ontario, 2011). SWS operates on a case-by-case basis of student response to instruction. It consisted of not one inquiry but many, each co-planned and executed by a SWST teacher from the school board and the student's host classroom teacher, as they collaboratively engaged in understanding each child's learning and instructional needs (Ryerson 2017).

The literature reviewed showed that while focusing on student experiences, teachers become more reflective and adaptive and open to adjusting next steps in their instructional strategies. Students become more engaged and understand they have a voice in learning, while the teaching then becomes a reflection of their own questions, wonderings and identities. SWS job embedded structure is an asset-based approach for both student and teacher because it

focuses on the entire partnership in the instructional core. This allows both partners to strengthen their relationship within the sacred space of the classroom and in the midst of the curriculum, content, and student work, which lends itself to all partners engaging in knowledge building through this reflective classroom practice. This interconnectedness and interaction of the partnership of teacher-student- content is simple in its foundation but immeasurable in its potential for impact for student, teacher, and schools and districts. This is another way that new understandings are revealed through this type of intervention for schools and boards, "A focus on the instructional core grounds school improvement in the actual interactions between teachers, students, and content in the classroom…" (City et al., 2009, p38).

This approach allowed student work and understanding to become visible so that teachers and students were in better positions to understand next steps, areas of strength and what the true measure of learning is and can be potentially, "it is teachers seeing learning through the eyes of students," (Hattie, 2009, p14). When this occurred, data and observations from the student experiences potentially impacted change within all invested partners in the process including schools and systems. This point addresses question 1 in that data from this type of approach can change or cause partners to question existing school and board structures. As mentioned by Ryerson (2017) many SWST reports included descriptions of their schools and districts employing actual changes to the ways in which the usual beliefs around students' roles and existing structures dominated due to the findings of specific examples of student outcomes found by studying student experiences through the inquiry.

For example, one SWST reported the biggest challenge was moving the teacher talk from gaps to assets in terms of student thinking simply by modelling language using an asset based

approach, asking what instead can the student do rather than not do, what strengths are present in the work rather than what is still missing. Other SWSTs' reflections and data led teachers to question the structure of their classroom timetables and of the day after observing interruptions in learning due to short periods and timeframes. A SWST questioned: how will schools be structured and organized so that there are longer, uninterrupted times for slowing down pace of learning. (Ryerson 2017). Clearly, this is evidence of how objectively observing the student experience reveals new understandings for schools and districts about how to improve student thinking. It also speaks to the notion that by objectively observing students in their own classrooms and co-analyzing, co-reflecting, co-describing with another skilled practitioner, teachers naturally are in the midst of their own professional development and are improving upon their own pedagogy.

An additional example of this new understanding is found in the SWS supposition report, (Taouil 2012), and concerns school scheduled snack times. Scheduled snack times were found to stop the learning during the language block in a grade ⅔ combined class. The SWST observations and SWST and host teacher's collaboration over the documentation led them to identify that while students watched the clock and waited for their scheduled snack time at 10:00 am, their learning had already shut down while at the learning carpet typically by 9:40 am. Further, they were observed talking to their elbow partner about the snack in their lunch bags and would raise their hands in the midst of explicit teaching or during a read aloud of mentor text, to ask when snack time was or when was it approaching.

From that point on, as part of that SWST inquiry in that specific classroom, open snack was born. Both SWST, teacher and student, found using open snack, and honouring a child's

ability to choose for themselves when a snack was needed improved their self-regulation and metacognitive skills. Additionally, as a system improvement and a spread of this impact, open snack to improve upon self-regulation and metacognition was introduced and implemented in other classrooms in this school and in this board. Additionally, at the time of writing this paper, in the WECDSB, expert partners in the learning process, such as board hired Speech and Language Pathologists and Occupational Therapists will from now on, work and observe children, directly in their classrooms. This again reiterates the importance of studying the exact student experience in a job embedded fashion in order to collaborate with vested partners, on specific, precise and personalized plans of action for individual students. This also exemplifies how new understandings about student learning are produced through a job embedded CI where studying the student experiences and perceiving students as central partners are fundamental components.

Furthermore, SWS-CI employed a structure by which its practice impacted research about student thinking. Ryerson (2017) stated that through SWS a key criterion that was explored with SWSTs was whether or not their involvement led to any new learning and that in theory practice based evidence should lead to change in practice. Ryerson (2017) argued that a significant amount of new learning came into play through this project with reports of changes in practice which were leveraged by looking at the way the typical everyday behaviours in classrooms are understood by teachers. Ryerson noted that one study teacher observed behaviours such as fiddling with shoe laces and followed it up by asking the student to explain their thinking and actions. This action led to a new understanding of the prejudices sometimes made by teachers around student engagement and acceptable behaviours. Therefore, an

approach like SWS forced educators to take a different look at classroom reality and everyday teaching and learning by having the awareness and courage to argue against the norm, the mundane (Kneyber 2016, p.44 as cited in Ryerson 2017).

So, how does a job embedded collaborative inquiry approach which included a hired teacher-as-researcher (SWST) studying the everyday experiences of students in classrooms, which views students as a critical partner in the teaching learning process, reveal new understandings about student learning, for schools and districts? It does so by making learning visible. It does so by honouring the relationship and partnership between teacher-student-content directly in the instructional core in order to identify real authentic learning and realities thereby potentially leveraging precise and personalized and specific changes to what might otherwise be considered just the status quo in student and teacher learning. It does so by trying hard to always aim for job embedded interventions because that is the crucible of the learning and the work. It does so by shifting focus to the student as explained by Hattie (2009), *"*I never allow teachers or school leaders to visit classrooms to observe teachers; I allow them to observe only students – the reactions that students have to incidents, to teaching, to peers, to the activity." (Hattie, 2009). This focus moves the focus away from the teaching and instead toward the effect of the teaching. As in SWS, the focus is on the student and the student work, not on the teacher.

The new understandings are created within the ongoing, iterative partnership between teacher, student and content, observing and listening to students and

...seeing the lesson through the eyes of students" – this allows them to innovate when the strategies are not working." These teachers, who have a high level of flexibility, are called "adaptive learning experts." These are not the teachers with routine expertise that they use over

and over, but rather, these are the teachers who pay special attention to students and their understandings so they know when to intervene to advance the learning. (Hattie, 2009)

In addition, this type of job embedded collaborative inquiry, through the collaborative analysis of student work, leads to improved student thinking and increased teacher reflection and refinement of practice. The work of Little et.al (2003), "Examining student work for what matters most," which suggested that its practice could help improve school and district outcomes. Its value is in the very fact that it brings students into the centre of action and conversations around analyzing their work and a teachers' next instructional steps.

Little et.al, (2003) argued that by examining students work collaboratively with one another, teachers will increase their opportunities to learn, to create professional learning communities that are both willing and able to wonder, inquire and question practice, and to focus school based conversations around teaching and learning with the student at the forefront. The process of collaboratively talking about student work, led to important ways to move past interpersonal dynamics between educators and to instead shift the focus from teacher, to the student and work, in order to develop more precise and effective teaching and assessment.

In this way, by schools and districts implementing this type of job embedded approach as posed in Question 1, the collaborative analysis of student work leads to improved student thinking and increased teacher reflection and refinement of practice, and using pedagogical documentation as an assessment tool, gives students choice and voice in their own learning.

Finally, it is important to understand how pedagogical documentation through participatory research, empowers children and as such is a new learning from this type of job embedded collaborative inquiry approach as posed in Question 1. By honouring children's voice

and choice. For instance, in the example with Jake and Joshua, they chose to not allow the researcher to document their play and also chose not to participate in the tools themselves. On other occasions, children will invite the researcher to document them or join them and may decide to participate by documenting for themselves. Again, choice and voice as partner in the process is one way to empower students and children. Therefore, one could argue that the children do have an awareness of the documentation and the research and therefore do exercise democratic principles and power as previously discussed. Clearly, as Waller & Bittou show, the participatory tools, the pedagogical documentation tools on their own, do not guarantee participation for the children, however, it is the shared construction of knowledge around conversations with the children based on what is captured that enable meaning.

In SWS-CI, trust was an essential factor in order for this to occur and it often did. It was due to the trusting, caring relationship and partnership between SWST and student and SWST-student-teacher, that theories of action and change were produced and that students exercised choice and voice in their learning. During the Taouil (2014) inquiry, students needed to feel safe in order to agree to be part of the pedagogical documentation process. They had to trust me as a teacher, as a partner, as a researcher to help other students learn, before they would allow me to take a photo or video of their work and thinking. As part of the trust process, they needed to actually witness the trusting relationship I formed with the classroom teacher, my partner. Often students would listen to us discuss our own wonders, our own questions, when we ourselves were stuck in our own instructional next steps.

These moments were pivotal in that they proved to the children we are all co learners in this knowledge building process. We are a learning community. In that way, they then felt more

willing to share their work and thinking through pedagogical documentation. They became willing to discuss their own areas of growth and next steps when reviewing their own pictures and video recordings of their work, and that of their peers. The pedagogical documentation didn't just automatically produce change. It had to be part of a growing trusting relationship first, around co-learning amongst teacher, students, and the work. This structure currently exists in every JK/SK classroom in Ontario public schools of 16 students or more as it includes a teacher and an Early Childhood Educator (ECE) who are expected to teach as partners.

As reviewed in the literature, student/teacher/SWST collaborative partnerships positively impacted the degree to which students were willing to risk take, share openly, reflect constructively and reconsider transitional understandings. The shift from a fixed mindset to a growth mindset, enabled learners to appreciate the relevance and importance of their student voices in the collaborative construction of knowledge through student-driven research, but authentically supporting the learning of their peers and teachers, (Taouil, 2014).

Question 2 - How Can School and Board Leaders Implement This Approach

As a result of my own experiences and the analysis and study of the reviewed literature, the answer to Question two posed in this paper includes a variety of concrete ways addressed:

- by encouraging an open, co-learning stance around student thinking through the use of collaborative analysis of student work and pedagogical documentation
- by encouraging and incorporating pedagogical documentation as a form of assessment as and of learning in classrooms
- by encouraging board, and school leaders and education partners to regularly observe and learn in classrooms to directly interact with and observe students

The collective analysis and marking of student thinking using student work, artefacts, and documentation, helps to identify and develop assets in the thinking, and precise next steps in both student thinking and teacher instructional strategies. SWS-CI teachers worked together to moderate their suppositions and co-analyze and describe the pedagogical documentation. They worked in partnerships and networks to refine their thinking and develop plans of action and precise suppositions based on observational data. In Katz's work (2013) on "Networked Learning Communities" drawn from the research of Little et.al. (2003), he explained how a moderate amount of professional conflict and the ability to solve it, provided a chance to create powerful conversations that led to authentic changes in thinking and practice. Providing opportunities for this type of rich conversation around student thinking is another way school and board leaders can implement this approach so that the many worthwhile advantages for all vested partners are achieved.

Pedagogical documentation and its use in the instructional core is yet another way to make thinking and learning visible, and addresses the questions posed in this paper. The use of pedagogical documentation can open up possibilities for students for understanding and being understood (Gandini & Goldhaber, 2001, p.133), and for giving voice to children and thereby making them involved researchers and informants (Corsaro 2005, p.55). It has the power to celebrate students and to celebrate children ... "Celebrating the rights of children is central to this approach … this process nurtures plurality of ideas and voices," (Turner & Wilson, as cited in Wiens 2013).

In this respect, Cossaro recommends the "reactive" method of documentation where the researchers enter into children's places and wait for the children to give them permission to

participate in their activities (Cossaro, 2005), thereby sharing power in participation. Still, others like Wien (2011) reaffirm pedagogical documentation as a research story- built upon a question or wondering owned by teachers, children or others about the learning of children. It reflects a disposition of not knowing for sure and of asking how the learning is occurring rather than assuming as in traditional transmission methods of learning; that learning occurred because teaching occurred. In this way she argues that with standardized curriculum, once teaching has occurred there is a tendency to assume that learning must be tested: assessment as evaluation.

Wien (2011) in this way stressed pedagogical documentation as the antithesis to the powerful positioning of teacher as the all knowing judge of learning. Wien indicated words like assessment and evaluation should be distanced from pedagogical documentation as they imply judgment of learning and to judge is to remove oneself from participating. If the teacher is removed from participating, then it becomes solely the child's responsibility. And that may not be the kind of relationship that the student sees as based on sharing responsibility and power with regard to his or her own learning (Wein 2011). The goal for education and assessment in recommendations made in Campbell et.al., (2018), speaks to the need to review a student's experiences in order to design relevant assessment frameworks. Our vision that students' experiences – their needs, learning, progress and well-being – are at the centre of decisions about future assessment design and use.

Board and school leaders must encourage a co-learning stance in order to develop this approach in schools. There is a power to create change by working with others and acting as co-learners in the partnership between educators, students and content/curriculum as discussed through this paper and as part of a topic being pursued by writer researchers, Campbell et.al.

(2018), “We are proposing a change in the culture of the system of assessment and learning so that it is underpinned by co-learning – among educators, with and among students and their parents/guardians, as well as with all others connected to the education system.” They emphasize relevant feedback as part of effective assessment.

Therefore, how can specific and relevant feedback occur without studying the student experience as a partnership of teacher student content using pedagogical documentation? The ministry improvement committee hopes to see feedback in assessment as a central feature in Ontario education. “This is beneficial to students as they will be able to engage in a range of high quality assessment practices with ongoing feedback to support their learning, development and progress throughout their schooling (Campbell et.al., 2018). The willingness of educators to co-observe and co-reflect collaboratively on student thinking and work and experiences, helps schools and systems to understand the assets present in practice that can further learning for all, while also to understand and identify barriers that might be impeding learning in students, teachers and systems.

As mentioned in the review, City et al., (2009) emphasized the need for school improvements to stem from the instructional core; in classrooms. In response to Question two, board and school leaders can implement this type of approach by regularly making it a priority to be in the core. For principals, this means by being in classrooms. By showing and believing they are co-learners in a community of learners where mistakes are honoured, and all partners are part of the teaching learning process. City et al., (2009) emphasize as one of their seven principles of the Instructional Core, that we learn the work by doing the work ourselves, not by ordering others to do it, nor by hiring experts to do it.

During my time in the SWS-CI inquiry, when I organized professional learning network sessions to analyze student work, or when I was observing in classrooms, all partners in the process, became more engaged and active when the principal of the school joined us. And over time it became clear that it wasn't because the "boss" entered the room. It was because the more principals were in the classrooms, the more they were seen as a co-learner, as a partner, as part of the community. Again, if a principal visited a classroom or took part in a PLN one or two times only, then they were perceived as the "boss" checking up on us and the engagement of all was not authentic. But when principals made it a routine, a priority, then real change and real engagement occurred. This process also speaks to answering question three posed in this paper: How does this type of approach improve student engagement, learning and school culture?

Research Question 3 - Improving Student Engagement, Learning, and School Culture

Student engagement, learning and school culture all improve using this type of job collaborative inquiry because a community of learners forms from the power of collaboration and co-learning, co-analysis, co-reflection of student thinking and observations within the pedagogical documentation. It improves student engagement, learning and school culture because students grow to understand that they are valued and that their thinking matters. They see that their work is so important to their teacher, and to their school, that the principal is a regular analyzer of it. This regular practice of having principals, vice principals, learning support service teachers, school board occupational and speech therapists, become regular members of classrooms in the presence of content and student work, is what improves school culture.

The Power of the Principal

Elmore offered concrete suggestions for school administration when in classrooms. He recommended principals block their calendars and designate three mornings a week to classrooms. This point speaks to the idea that when principals are seen by students and teachers to be regular partners in the classroom, engagement and a sense of community increases. Secondly, he suggested to never put teachers in a group without participating in that group themselves. This suggestion speaks to the importance of co-analyzing student thinking and of being a partner at the table not a supervisor. We are all learning in a community. Thirdly, he suggested principals turn off walkie-talkies, walk into classrooms quietly without saying anything for 15 minutes, and then only then they should speak, but only ask a question to which they do not know the answer. This speaks to the power of objectively observing the student experience without judgement. All these factors he suggested reiterate the importance of being a co-learner in the partnership with student, teacher, and content, in the teaching and learning process, (Ministry of Education, 2010).

Additionally, student engagement, learning and school culture are all further improved with this type of collaborative inquiry because it also includes students as participating partners in the research and process. In the study reviewed by Waller and Bittou (2011), they stress the impact of pedagogical documentation including the student as part of the process allows for all invested partners to really learn about how students think, “a unique source of information-precious for teachers, children, the family and anyone who wants to get closer to the strategies in children’s way of thinking.” (Rinaldi & Moss 2004, p.3, as cited in Waller & Bittou, 2011). In a

school, in a classroom, students want to be valued. They want to be heard and their thinking and identities reflected in the classroom content and school life.

This type of collaborative inquiry approach using collaborative analysis of student work and pedagogical documentation creates a democratic culture. A school culture which focuses on learning, on the work, on student voice and a community of co-learning. Dahlberg, Moss and Pence (2007), view pedagogical documentation as a 'vital tool for the creation of reflective and democratic practice' (p.145 as cited in Waller & Bittou, 2011). Ultimately, the answer to question three posed in this paper is the fact that students and teachers and leaders are engaged in work and student thinking that are all personalized to them, in real time. When teachers collaborate around and learn about improving student thinking using their own actual students' experiences and classrooms, the work becomes more meaningful and thus the change is more authentic. This then demonstrates a need to look at approaches like the SWS-CI covered in this paper, in order to improve student thinking and outcomes for students, schools and boards.

Limitations

Critics might argue that this job embedded collaborative inquiry approach is unreliable in its' findings. Namely, because inviting students in on the conversation, and the fact that the students know there is a SWST visiting them weekly to give them attention around their work and next steps are just two factors alone that may imply it is unreliable. And instead it may be more the validation around these actions than the actual process itself which may have led to improved student thinking outcomes and performances, (The Hawthorne Effect, 1962). The very fact that students across Ontario never before have had a visiting teacher/researcher armed with a field journal, ipad, camera, engage with them about their work or classroom experiences, may be

at the root of the perceived benefits and changes. “The very novelty of a new system of instruction may make it attractive to teachers and learners alike thus giving it a special advantage and perhaps only a temporary advantage over the rival traditional system of instruction” (Brownell 1951 as cited in The Hawthorne Effect (1962), p.119). Further, some might question whether the positive impacts might disappear once the additional teacher/practitioner no longer visits the classroom space.

Additionally, using an ethnographic type of study in which the subjects are active participants, including students in SWS, then this participatory approach to research lends itself to questions around its ethics and legitimacies. For example, by inviting the child in to see the picture of herself on the iPad might cause her to change her normal behaviour or activity. How is it recorded without changing it? (Waller & Bitou, 2011). Instances like this happened during my own time as a SWST when I had to ask students to repeat their original action and idea, or their thinking, or their responses again so it can be captured via photo or video. So, it could be seen that it is the adults’ expectations (SWST) which are framing the direction of the study, rather than the actual student experience itself.

Notably, all SWSTs as part of their orientation process in 2009, studied Richard Elmore’s work around “Unlearning to Judge” in City et al., (2009), to help mitigate this very possibility. Nevertheless, in participatory research some would pose this as a possibility in biasing the observations. Further, the use of pedagogical documentation in participatory ethnographic research can lead into creating categories of appropriate versus inappropriate look fors’ on the part of the adults in the study. Dahlburg, Moss, and Pence (2007 in Waller & Bitou, 2011), identify this action as a dilemma in using pedagogical documentation by using it as a function for

inclusion and exclusion whereby the adult is exercising the most power and control. They go on to ask whether adults have the right to interpret and document children's activities and determine what is ethically legitimate.

Challenges To Implementation

Despite its progress and potential for systems and districts and schools, tensions were inherent in educators actually finding time to do this work effectively while keeping up with daily classroom and school demands. Also, without the daily employment of an additional teacher in classrooms to be the second set of eyes and ears in observing students at work, teachers often wondered how can this work continue? Surely, creative administrators could potentially free up non classroom teachers such as Learning Support Teachers, for a period or two in order to co observe, co analyze and co reflect on the student experience along with classroom teachers, but some argue this is not enough time and is not consistent enough to co create an authentic plan of action or supposition to implement, measure and monitor.

Further, districts struggle with sustaining and spreading this notion of active participatory research within collaborative inquiry structures, while still promoting more traditional methods of assessment and evaluation apart from pedagogical documentation, such as using traditional report card grades and standardized testing. Standardized testing (EQAO) based strictly on curriculum expectations being covered appears to be in opposition to the notion of slowing the pace of instruction in classrooms to follow the students' lead in authentic inquiries. Also, it is contrary to building risk taking and collaborative classroom spaces where learning is analyzed and reflected upon by a true partnership of student, teacher, and content/work, in an instructional core.

Ryerson (2017) discussed in her work the notion that SWST reports raised critical questions about the status quo in education such as traditional assessment including report card grades. Explicitly making the learning process available for reflection through video, audio, photographs, and field notes, enabled continuous reflection on the fairness, accuracy and pedagogical value of common approaches to assessment (such as assignments, tests, checklists and rubrics) when used in isolation. Again, as previously discussed, the triangulation of data (student observation, student conversations and student products) better documents a plethora of examples of student thinking over time. This contradicts the mark and level grades seen on report cards in Ontario. It is also in contradiction of the standardized assessment of EQAO which seeks to measure a student's ability as one snapshot in time, again by assigning students an achievement level (1-4).

Recommendations made by Campbell et.al., (2018) regarding large scale province wide standardized assessments such as EQAO include trying to make it more personal and reflective of students' cultures, beliefs, identities, backgrounds and interests, "Going forward, large-scale assessment data should not be used for individual student diagnostic or evaluative purposes and students should not be subject to excessive test preparation for a summative system-level snapshot. They go on to stress that in order for Ontario to keep and build upon its reputation as a world class education system, it needs to use "assessments that are appropriate to the diverse needs, experiences and aspirations of students."

However, currently in Ontario, and at the time of this writing, EQAO is a reality in districts and schools and as a snapshot assessment, which is not reflective of all diverse cultures and languages inherent in our Ontario school populations today and evermore so, is a direct

contradiction to the structures present in SWS-CI and in collaborative inquiries in general in Ontario. Notably, very recently during the writing of this paper, EQAO has newly created a student committee to try to offer students in Ontario more voice and choice in the standardized testing process. District and school leaders were notified of this change in the fall of this current academic year, 2018-2019.

SWS as a collaborative inquiry focused on the student work and also on the notion of collaboration. What does collaboration look like in classrooms amongst students and educators? Collaboration implies interpersonal connections. Growing Success (2010) includes collaboration as a learning skill to be measured on report cards in Ontario. It is defined as:

The student

- accepts various roles and an equitable share of work in a group
- responds positively to the ideas, opinions, values, and traditions of others
- builds healthy peer-to-peer relationships through personal and media-assisted interactions
- works with others to resolve conflicts and build consensus to achieve group goals
- shares information, resources, and expertise and promotes critical thinking to solve problems and make decisions

Tensions Between Collaborative and Introverted Styles

Obviously, according to the criteria, for a student to be truly considered collaborative, a student must work effectively with others, usually in a group. This does not include any participation in SWS-CI or in any collaborative inquiry. This is just based on classroom reality in Ontario concerning report cards and assessment of Ontario students. This assumes students are able to work effectively with others and are able to be comfortable socializing and

associating within a group in order to build meaning and improve learning. Therefore, we, as a system in education, are promoting an extraverted personality as being the preferred and desired in our Ontario classrooms. What implications does this province wide stance have on our introverted students? What about them?

Susan Cain (2013) in her research talks about the role of introverts in today's society, the rise of the new 'GroupThink,' and how collaboration kills creativity. For the purposes of this paper, her work involving education specifically will be addressed. Cain asserts solitude is out of fashion and collaboration is in. She states the new 'GroupThink' elevates teamwork above all else (p 75). Cain has set her sights on changing the classroom, where she says teachers unconsciously reward the extroverts who dive headfirst into discussions, sometimes without much forethought.

In her book, Quiet, Cain (2013) noted that in elementary schools the traditional rows of seating facing the teacher have been replaced with arranging desks together to form a pod of four or more to facilitate countless group learning activities. In one classroom she visited a sign for Group Work Rules was visible and read: "You can't ask a teacher for help unless everyone in your group has the same question." (p.77). Now, understandably not all teachers and classrooms have these rules or do in fact arrange desks in pods of 4 or more students together, but what is certain, is that in schools including in Ontario, there is a growing emphasis on collaboration and collaborative work and learning as a necessary learning skill in order to prepare children for the workplace. One fifth grade teacher in a Manhattan public school in Cain's book acknowledges this type of teaching reflects the business community. (p 77). She is quoted as asserting that this

style of teaching and learning is an elitism based on something other than merit because you have to be someone who speaks well and calls attention to yourself.

Now, for introverted students, being verbal and calling attention to themselves can be an anxiety ridden experience. Cain explains that cooperative learning in schools enables skills in working as teams-skills that are in dire demand in the workplace. Cain's attention to this phenomenon calls to question efforts in education in Ontario to stress collaboration in classrooms not only amongst students, but also as presented in the reviewed literature, for teachers as well. What implications does an emphasis on moderated marking as professional teams of educators, or in partnership with other educators, when observing and documenting student learning, have on our educators whose personalities are wired as possibly more introverted?

Accountable Talk

One collaborative structure found as a theme prevalent in the SWS-CI inquiry was accountable talk (LNS 2011). Accountable talk includes student discourse in order to improve learning and build upon meaning as a community of learners. The term "Accountable Talk" refers to classroom talk that by students amongst peers and teacher, as meaningful, respectful and mutually beneficial to both speaker and listener. Accountable Talk stimulates higher-order thinking— helping students to learn, reflect on their learning, and communicate their knowledge and understanding.

To promote Accountable Talk, teachers create a collaborative learning environment in which students feel confident in expressing their ideas, opinions and knowledge. (Ministry of Education, 2011). In this regard, one method of Accountable Talk in classrooms is the 'Think

Pair Share' strategy, in which pairs of students share and verbally articulate their thinking to one another then possibly to the whole class. Now, what might be the implications for students who are more naturally inclined to work independently instead of turning to a peer to share their ideas out loud? What might be the effects of encouraging this type of talk over working independently? Is one more superior to the other?

CHAPTER 5: CONCLUSION

System and school leaders across publicly funded schools in Ontario are required to submit yearly Board and School Improvement Plans to the Ministry of Education. One document that exists to help frame these plans as a system and province is the School Effectiveness Framework document. The Ontario School Effectiveness Framework (SEF) (2010) emphasizes the partnership between educators and students is critical for actual learning to occur. On the teacher student content relationship,

The power of positive teacher-student relationships is critical for learning to occur. This relationship involves showing students that the teacher cares for their learning as a student, can see their perspective, and communicate it back to them so they have valuable feedback to self-assess, feel safe, and learn to understand others and the content with the same interest and concern." (Cornelius-White, 2007, pg. 123, as cited in SEF, 2010)

Learning partnerships then formed between student, teacher, and content (student work and curriculum), within a collaborative inquiry structure such as the Student Work Study Initiative, and produced benefits. These benefits included increasing student agency through metacognition, self- regulation, collaboration, and risk taking in learning due to an involvement in the teaching learning process and within participatory tools in pedagogical documentation. Furthermore, an increased engagement and confidence resulted in students as participants in the research which demonstrated what effective teaching and learning could possibly look and sound like in classrooms across Ontario.

The development of a practical and job-embedded approach to study the student experience, specifically, how students work and think in the classroom, can inform districts and

schools. It can also enhance both student learning and educator pedagogy and learning. A job embedded approach can strengthen the learning potential for all partners in the process while deepening the instructional core. The dissonance between instructional strategies and actual student learning and actions is the space where the authentic learning happens. As pioneering SWSTs we were often given permission to "luxuriate in the muck," (Ministry of Education, 2011). Learning is messy. It is not linear. It is often cyclical, back and forth, inside out, following an iterative organic flow trenched in tacit educator and student thinking and actions. (Ministry of Education, 2011). In other words, the doing is the crucible of the work and change (Fullan 2011, p.3).

An examination of the literature concerning SWS suggests the SWS initiative is unique in its ability to study the actual student experience in real time, in order to create personalized and immediate next steps in learning for students, and with students. Collaborative inquiry contributes to both an educator's professional learning and student learning. The purpose of CI is twofold: to promote professional learning, and, to improve student learning, achievement and a sense of well-being. These goals are interdependent. Learning experiences occurring in classrooms for students serve as the catalyst, or "curriculum," for the educator's professional learning.

At the same time, when educators engage in CI for professional learning, the work contributes to changing classroom practice and improving efforts to support student learning, well-being, equity, engagement and belonging. Further, collaborative inquiry is both a method for problem solving and a system approach to generating professional knowledge. Educators engaged in CI often see the value of their findings for refining their own practice. However,

these findings can also contribute knowledge and understanding for system learning. For this reason, effective CI involves a deliberate and systematic approach to the use of evidence of student learning that builds collaborative school teams while informing coherent, integrated approaches to system work.

Not only is CI a method for improving teaching and learning, but it is also a means to system improvement through shared professional knowledge. (Ministry of Education, 2014). Overall, the review and analysis of the research around collaborative inquiries, and of SWS-CI specifically, demonstrates the features and functions of a job embedded collaborative inquiry, where students are perceived as central partners in the learning process, using a co-learning stance through the practice of collaborative analysis of student work, using pedagogical documentation in creating a knowledge building community of co-learners.

For education stakeholders moving forward, considering interventions which include a school and system's own student thinking in the actual research, and by honouring the partnership between teacher-student-content, may in fact, create more curiosity, wonder, interest and engagement. It may also create personalized interventions for enhancing student thinking and achievement, teacher reflection, school culture, and board improvement. Will this type of approach work in all boards and schools? Is the perceived change lasting? Why do many Ontario students achieve Level 2? How can we work to move them to Level 3? Clearly, by including them. By listening to them. By involving them. By slowing down the learning process in order to truly invest and create a co-learning, knowledge building, community of learners where mistakes are visible and honoured, and the work in the instructional core is at the forefront for all partners, including school principals. By sitting right in the student's desk and doing the work. Together.

"If you want to travel fast, go alone. If you want to travel far, go together." African Proverb

REFERENCES

Brownell, W.A. (1951). 'A Critique of Research on Learning and Instruction in the School. *Fiftieth Yearbook of the National Society for the Study of Education,* Pt. 1, Graduate Study in Education, H.B. Henry. Chicago: University of Chicago Pres. Ch. 6, p. 60.

Cain, S. (2013). *Quiet: The power of introverts in a world that can't stop talking*. London: Penguin Books.

Cameron, D. H., Gauthier, G., Ryerson, R., & Kokis, J. (2011). *Teacher professional learning from the 'inside out': Studying the student experience as means to teacher action and new knowledge.* Paper for submission to peer reviewed journal, Ontario Ministry of Education, Canada. retrieved from: https://scholar.google.ca/scholar?hl=en&as_sdt=0%2C5&as_vis=1&q=teacher+professional+learning+from+the+inside+out+david+hagen+cameron&btnG=

Campbell, C., Fullan, M., Clinton, J., Hargreaves, A., James, C., & Longboat, K. D. (2018, March). Ministry of Education. Ontario: A Learning Province. Retrieved from https://www.oise.utoronto.ca/preview/lhae/UserFiles/File/OntarioLearningProvince2018.pdf

Capacity Building Series - Ontario. (2015). Pedagogical Documentation Revisited. Retrieved from http://edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_PedagogicalDocument.pdf.

Capacity Building Series - Ontario. (2011). Grand Conversations in the Junior Classroom. Retrieved from: http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_Grand_Conversations_Junor.pdf

Carr, M. 2001. *Assessment in early childhood settings*, London: PCP.

City, E. A., Elmore, R. F., Fiarman, S. E., & Teitel, L. (2009). *Instructional rounds in education: A network approach to improving teaching and learning*. Cambridge (Massachusetts): Harvard Education Press.

Clark, A., & Moss, P. (2001). *Listening to young children: The Mosaic Approach*, London: National Children's Bureau.

Cook, D. (1962). The Hawthorne Effect in Educational Research. *The Phi Delta Kappan, 44*(3), 116-122. Retrieved from http://www.jstor.org/stable/20342865.

Corsaro, W. (2005). *The sociology of childhood*, 2nd edn., Thousand Oaks: Pine Forge Press.

Corsaro, W. (2003). *We're friends, right? Inside kids' culture*, Washington: Joseph Henry Press.

Cornelius-White, J. (2007). Learner-centered teacher-student relationships are effective: A meta-analysis. Review of Educational Research. 77(1)

Cowie, B. and Carr, M. (2004). "The consequences of socio-cultural assessment". In *Early childhood education*, Edited by: Anning, A., Cullen, J. and Fleer, M. 95–106. London: Sage.

Dahlberg, G., Moss, P., & Pence, A. (2007). Beyond quality in early childhood education: Languages of evaluation. London: Routledge.

Donohoo, J. (2013). *Collaborative inquiry for educators: A facilitator's guide to school improvement*. Thousand Oaks, CA: Corwin.

Earl, L., (2007). Assessment of learning. In W. D. Hawley (Ed.), The keys to effective schools (2nd Ed.) (pp.85–98). Thousand Oaks, CA: Corwin Press.

Elmore, R. (2008), "Leadership as the practice of improvement", in Hopkins, D., D. Nusche and B. Pont (eds.), *Improving School Leadership, Volume 2: Case Studies on System Leadership*, OECD Publishing, Paris, https://doi.org/10.1787/9789264039551-4-en.

Emond, R. (2005). "Ethnographic research methods with children and young people". In *Researching children's experience: Approaches and methods*, Edited by: Greene, S. and Hogan, D. 123–40. London: Sage Publications.

EQAO's Provincial Elementary School Report. (2014). Ministry of Education. *Explanation of Terms Retrieved from:* http://www.eqao.com/en/assessments/results/assessment-docs-elementary/provincial-report-elementary-explanation-terms-2014.pdf.

Fielding, M. (2001). "Students as Radical Agents of Change." *Journal of Educational Change* 2 (2):123–141.

Fullan, M., & Langworthy, M. (2014). "A Rich Seam. How New Pedagogies Find Deep Learning". Pearson. 2014. Retrieved from: http://michaelfullan.ca/wp-content/uploads/2014/01/3897.Rich_Seam_web.pdf

Fullan, M. (2011). Change Leader: Learning to do what matters most. San Francisco, CA: Jossey-Bass.

Fullan, M. (2010). *Motion leadership: The skinny on becoming change savvy*. Thousand Oak, CA: Corwin Press.

Fullan M. (2007). Change Theory as a Force for School Improvement. In: Burger J.M., Webber C.F., Klinck P. (eds) Intelligent Leadership. Studies in Educational Leadership, vol 6. Springer, Dordrecht DOIhttps://doi.org/10.1007/978-1-4020-6022-9_3

Gandini, L., & Goldhaber, J. (2001). "Two reflections about documentation". In *Bambini: The Italian approach to infant/toddler care*, Edited by: Gandini, L. and Edwards, C.P. 124–45. Columbia University, New York: Teachers College Press.

Growing Success. (2010). *Assessment, Evaluation and Reporting In Ontario Schools.* First Edition, Covering Grades 1 TO 12. Ontario Ministry of Education, :34. Retrieved from: http://www.edu.gov.on.ca/eng/policyfunding/growSuccess.pdf

Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning*. New York: Routledge.

Hattie, J. (2008). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. New York: Routledge.

Herbst. D., & Davies. A. (2015). Triangulation: I Understand the "Why," Now Please Tell Me the "When." Retrieved from: http://sandraherbst.blogspot.com/2015/04/triangulation-i-understand-why-now.html

Hutchison, D. (2015). *What Works? Research Into Practice.* Project Based Learning: Drawing on Best Practices in Project Management. Ministry of Education, Ontario. Retrieved from http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/WW_BestPractices.pdf

Katz, S., & Dack, L. A. (2013). *Intentional interruption: Breaking down learning barriers to transform professional practice*. Thousand Oaks, CA: Corwin.

Kneyber, Rene. (2016). "On Neoliberalism and How It Travels: Interview with Stephen Ball." In *Flip the System: Changing Education from the Ground up*, edited by J. Evers and R. Kneyber, 39–44. Abingdon: Routledge.

Laevers, F., ed. (1994). *The Leuven involvement scale for young children. Manual and video*, *Experiential education series,* no. 1 Leuven: Centre for Experiential Education.

Little, J. W. Gearhart, M. Curry, M. & Kafka, J. (2003). Looking at Student Work for Teacher Learning, Teacher Community, and School Reform. *Phi Delta Kappan*, 85(3), 184-192. Retrieved from http://journals.sagepub.com/doi/10.1177/003172170308500305 https://doi.org/10.1177/00317217030850030.

Lodge, Caroline. (2005). "From Hearing Voices to Engaging in Dialogue: Problematising Student Participation in School Improvement." *Journal of Educational Change* 6 (2): 125–146.

Macdonald, M., & Sánchez, A. (2010). Provoking dialogue: Promote a deeper understanding of teaching and learning through images and documents. *Canadian Children*, *35*(2), 25–30.

Ministry of Ontario, (2016). *Achieving Excellence: A Renewed Vision for Education in Ontario*. Retrieved from: https://www.ontario.ca/page/published-plans-and-annual-reports-2016-2017

Ministry of Education, Ontario. (2015). Pedagogical Documentation Revisited. Retrieved from: http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_PedagogicalDocument.pdf .

Ministry of Education, Ontario. (2014). Collaborative Inquiry in Ontario. Retrieved from: http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_CollaborativeInquiry.pdf

Ministry of Education, Ontario. (2014). Living in a State of Inquiry DVD: Lessons from the Student Work Study Teacher Initiative. Queen's Printer for Ontario.

Ministry of Education, Ontario. (2012). Pedagogical Documentation. Retrieved from: http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_Pedagogical.pdf.

Ministry of Education, Ontario. (2011). Learning in the field: SWST - Ontario. Retrieved from: http://www.edu.gov.on.ca/eng/literacynumeracy/research/swst.pdf

Ministry of Education, Ontario. (2011). Students of Mystery DVD Webcast: The Student Work Study Teacher Initiative. Retrieved from: www.thelearningexchange.ca

OECD/CERI. (2008). International Conference. Retrieved from: https://www.oecd.org/site/educeri21st/40600533.pdf. "Learning in the 21st Century: Research, Innovation and Policy." Assessment for Learning Formative Assessment. Centre for Educational Research and Innovation.

Ontario Ministry of Education, (2010). Leading the Instructional Core: an interview with Richard Elmore. In *In Conversations*. Summer, (11)3. Retrieved from: http://www.edu.gov.on.ca/eng/policyfunding/leadership/summer2010.pdf.

Ontario. Ministry of Education. (2010). The K-12 School Effectiveness Framework: A support for school improvement and student success. Toronto: Author.

Rinaldi, C. (2006). *In Dialogue with Reggio Emilia: Listening, researching and learning*, London and New York: Routledge, Taylor and Francis Group.

Rinaldi, C., & Moss, P. (2004). What is Reggio?. *Children in Europe*, 6: 2–3.

Rudduck, J., & Fielding, M. (2006). "Student Voice and the Perils of Popularity." *Educational Review* 58 (2): 219–231.

Ryerson, R. (2017). Creating possibilities: Studying the student experience, Educational Research, 59:3, 297-315, Retrieved from: http://www.tandfonline.com/doi/abs/10.1080/00131881.2017.1343091.

Simon, R. (1987). *Empowerment as a Pedagogy of Possibility.* Language Arts, v64 n4 p370-82.

Taouil, M. (2014). Creating classroom conditions conducive to students co-building knowledge as a community of researchers. As part of the CERA Symposium, View from Inside the Classroom: Teachers' Perspectives on Studying Student Learning Experiences to Generate and Use Knowledge.

Taouil, M. (2012). Learning cultures which improve self-regulation and meta-cognitive awareness in primary students through implementation of student controlled activities and experiences. SWS Supposition Report submitted to the Ministry of Education. Ontario.

Taouil, M. (2011). Using Classroom Routines and Activities to Improve Self - Regulation in our Learners and Using Arts Based Instruction to Enhance Critical Thinking Skills and Idea Generation. SWS Supposition Report submitted to the Ministry of Education. Ontario.

Tarr, P. (2010). Curiosity, curriculum and collaboration entwined: Reflections on pedagogical documentation. *Canadian Children*, *35*(2), 10–15.

Timperley, H. (2010). Using Evidence in the Classroom for Professional Learning. Paper presented to the Ontario Research Symposium. retrieved from http://www.educationalleaders.govt.nz/Leading-learning/Professional-learning/Using-evidence-in-the-classroom-for-professional-learning

Turner, T. & Wilson, D. (2010). Reflections on documentation: A discussion with thought leaders from Reggio Emilia. Theory into Practice, 49, 5-13.

Waller, T., & Bitou, A. (2011). Research with children: Three challenges for participatory research in early childhood. *European Early Childhood Education Research Journal,19*(1), 5-20. doi:10.1080/1350293x.2011.548964

Webster-Wright, A. (2009). Reframing professional development through understanding authentic professional learning. Review of Educational Research, 79 (2): 702-739.

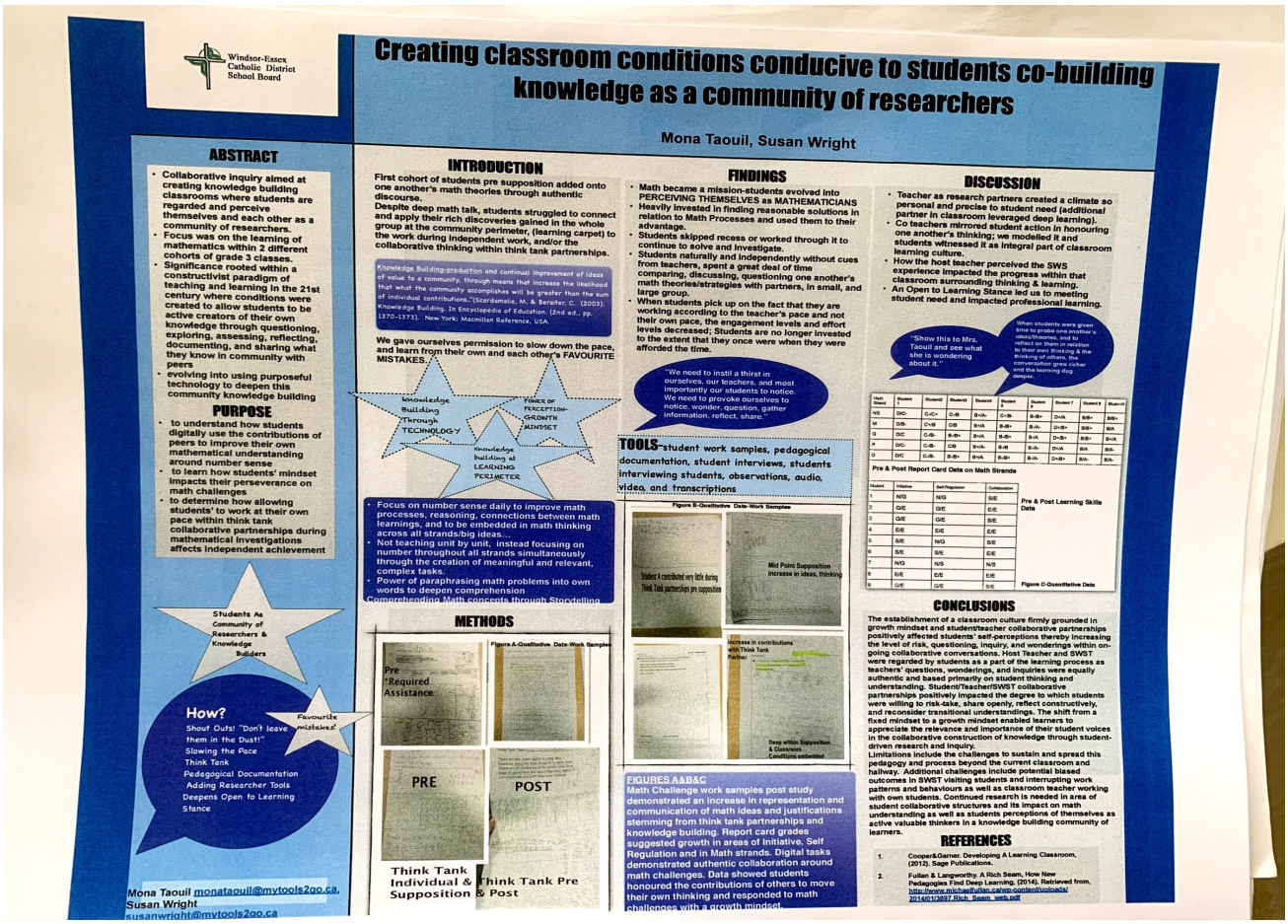
Wein, C. A. (2013). Making Thinking Visible Through Pedagogical Documentation. Queen's Printer for Ontario. Retrieved from: http://www.edu.gov.on.ca/childcare/wien.pdf.

Wien, C.A., Guyevskey, V. & Berdoussis, N. (2011). Learning to Document in Reggio Inspired Education. *Early Childhood Research and Practice*, 13(2), 1-12. in Wien 2011 Queen's Printer for Ontario.

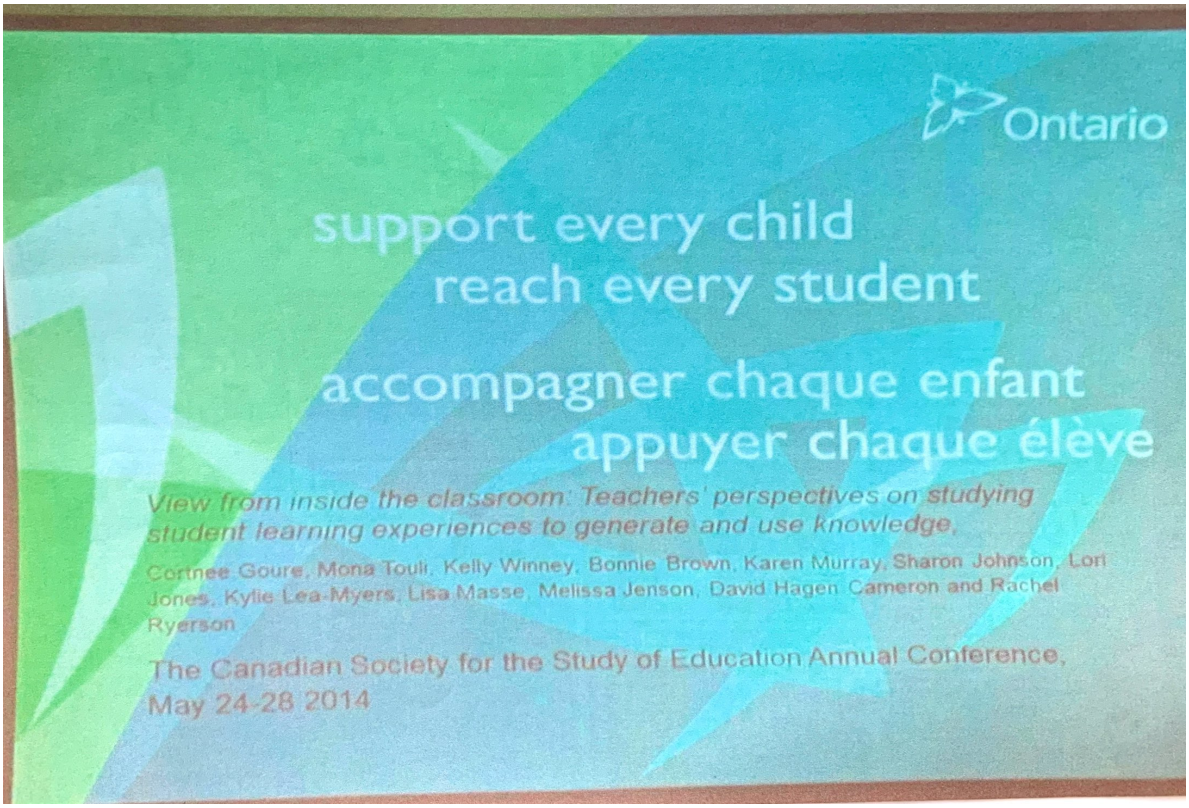
Wien, C. A. (2008). *Emergent curriculum in the primary classroom: Interpreting the Reggio Emilia approach in schools*. New York: Teachers College Press.

vanBarnevald, C. (2008). Ministry of Education. Ontario. Using Data to Improve Student Achievement. Retrieved from: http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/Using_Data

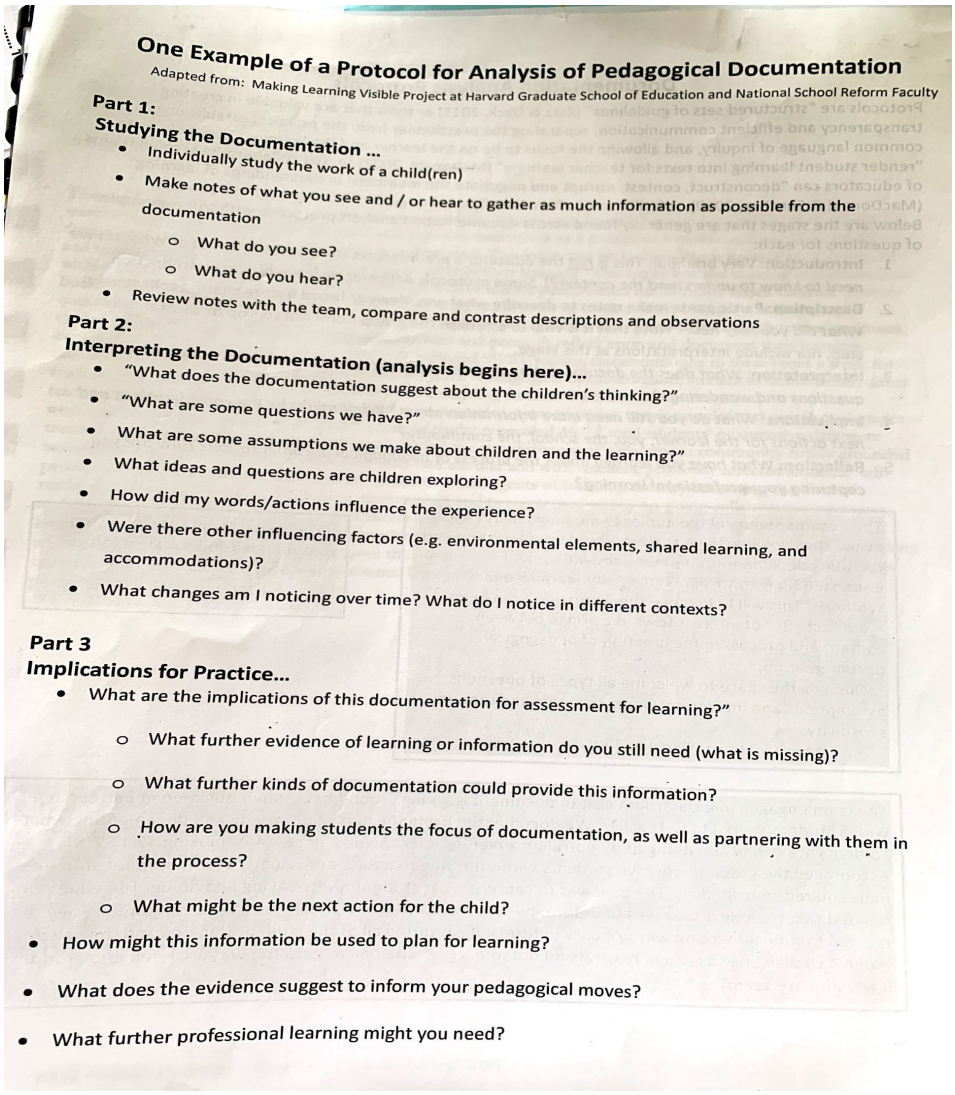
APPENDIX 1-RESEARCH POSTER (TAOUIL 2014)



APPENDIX 2- CERA 2014



APPENDIX 3 – PEDAGOGICAL DOCUMENTATION PROTOCOLS



One Example of a Protocol for Analysis of Pedagogical Documentation

Adapted from: Making Learning Visible Project at Harvard Graduate School of Education and National School Reform Faculty

Part 1:
Studying the Documentation ...

- Individually study the work of a child(ren)
- Make notes of what you see and / or hear to gather as much information as possible from the documentation
  - What do you see?
  - What do you hear?
- Review notes with the team, compare and contrast descriptions and observations

Part 2:
Interpreting the Documentation (analysis begins here)...

- "What does the documentation suggest about the children's thinking?"
- "What are some questions we have?"
- What are some assumptions we make about children and the learning?"
- What ideas and questions are children exploring?
- How did my words/actions influence the experience?
- Were there other influencing factors (e.g. environmental elements, shared learning, and accommodations)?
- What changes am I noticing over time? What do I notice in different contexts?

Part 3
Implications for Practice...

- What are the implications of this documentation for assessment for learning?"
  - What further evidence of learning or information do you still need (what is missing)?
  - What further kinds of documentation could provide this information?
  - How are you making students the focus of documentation, as well as partnering with them in the process?
  - What might be the next action for the child?
- How might this information be used to plan for learning?
- What does the evidence suggest to inform your pedagogical moves?
- What further professional learning might you need?

VITA AUCTORIS

Mona George-Taouil was born in Leamington, Ontario. She graduated from Cardinal Carter Catholic Secondary School. From there she went on to the University of Windsor Ontario where she obtained a Bachelor of Arts degree and a Bachelor of Education degree. She is currently a candidate for the Masters degree in Education at the University of Windsor and hopes to graduate in the Fall of 2019.